A STUDY ON ERAIPPU ERUMAL

(BRONCHIAL ASTHMA)

DISSERTATION

Submitted to

Tamilnadu Dr.M.G.R.Medical University for the partial fulfillment of Requirements for the award of the Degree of

DOCTOR OF MEDICINE (SIDDHA)

BRANCH I – MARUTHUVAM

POST GRADUATE DEPARTMENT OF MARUTHUVAM
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C O N T E N T S

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CERTIFICATE

Certified that I have gone through the dissertation submitted by **Dr.M.Chandralega** a student of final M.D(S), Branch-I Maruthuvam, Government Siddha Medical College, Chennai and the dissertation work has been carried out by individual only.

Place: Chennai

Date:

Professor & Head of the Department
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INTRODUCTION

Medicine means one that ensures physical and psychological health, prevention against diseases and prevention against mortality.

The Siddha system is the most ancient system of medicine in the world has its own unique features and is considered as the mother of all systems of medicine.

Siddha system gives almost importance to this body because,

cl«Ãid K‹d« ÏG¡bf‹¿Uªnj‹
cl«ÃDŸns cWbghUŸ f©nl‹
cl«òŸns c¤jk‹ nfhæš bfh©lh‹ v‹W
cl«Ãid ah‹ ÏUªJ X«ò»‹ nwnd- ÂU_y®

and thus to the physical, mental and social well being and of course longevity.

Siddha System has been developed purely by the contribution of Siddhars on their own line of thinking and achievements in the field of their research on the basic principles of nature and its elements.

The Siddhars school fully recognises ninety six tatwas and further add that the human body is composed of 72,000 bloodvessels, 13000 nerves, 10 main arteries, 10 vital airs (prana) all together in the form of network.

This system of medicine is formulated on the basis of three humours of the body such has vali, Azhal and Iyam. Which are the fundamental units of normal physiological function. Derangement of these three kutrams causes disease.

“thjÃ¤jika _‹W« t‹gy¤Jlnd j¤j«
ngjbkh‹¿šyh t©z« ngÁa jhdªj‹åš
ÚÂahŒ ãiy¤J ã‰»š beL«ÃÂ Á¡féšiy
jhJÎ bkh‹nwhblh‹W jhéo‰ ÃåfŸjhnd”

- nehŒehlš nehŒ Kjdhlš Âu£L

The treatment aims at not only curing the disease but also enhancing the body vitality to combat the disease and minimize the chances of relapse. So the civilized world should not allow the Siddha system to lapse.

Respiration is one of the vital function of pranavata. There are ten types of vata. Any vitation to pranavata causes for respiratory problems especially Bronchial Asthma (Eraippu Erumal).

Respiratory diseases are clearly of great importance not only to the public health, but also to the economy. They affect, atleast to a minor degree, virtually every one in the population.

So I have decided to choose one of the most common complaints of Eraippu Erumal as my dissertation.

In siddha pharmacopia, most of the herbal products are used for curing many diseases especially in Eraippu Erumal.

I have gone through the literature intensively and found in Theraiyar Vaidhya Kaviyam 1500, Anubava Vaidhya deva Ragasium that the silethumathiruku Choornam and Bushkarathy Kudineer has been told as medicine for Eraippu Erumal.

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AIM AND OBJECTIVES

The aim of this study is to evaluate the efficiency of the Siddha medicine in the management of Eraippu Erumal.

Eraippu Erumal is a common disease affecting 10 – 20% of population of the world. The disease is closely correlated to bronchial Asthma. In the vast majority of the cases the disease is mild and often un recognised. There is evidence that the prevalence of asthma is increasing, the reason for this being unknown.

The common human diseases are directly proportional to the rate of pollution. Now a days this conditions stimulates easily in the upper and lower respiratory tract infections.

Siddha medicines are the most part of natural and processed in such a way as to be readily absorbed with in each cell in the body, giving its proper nourishment to sustain a long and healthy life. So many chronic diseases, considered incurable in other systems of medicine can be treated successfully with Siddha medicine.

The basic objectives are:

1. The main aim of present study on Eraippu Erumal is to collect and make a detailed study about the ideas mentioned in Siddha concepts based on literature.

2. To study Eraippu Erumal in various literature in comparison with modern science.

3. To carry out a clinical trial on Eraippu Erumal patients with Silethumathiruku Choornam and Bushkarathy Kudineer in Arignar Anna Hospital, Chennai – 106.

4. To understand the incidence of the disease with reference to age, Thinaigal, Paruvakalam, Socio economic conditions diet and family history.

5. To use Siddha and modern parameters to confirm diagnosis, severity and progress of the disease.

6. To evaluate the Bio-chemical and pharmacological study of the drug.

7. The result and observation are recorded and illustrates with necessary table as graph.

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REVIEW OF LITERATURE

SIDDHA ASPECT

Other Names:

Swasam
Swasakasam
Ezhuppu Noi

DEFINITION:

It is disease characterised by following cardinal symptoms that is chest pain and Dyspnoea, is a common symptom of respiratory and cardiac. So the exact symptom of chest pain and dispnoea could not be found. Wheezing is a musical sound which occurs during expiration due to narrowing bronchus. Cough occurs inorder to expel the sputum but does not comes out.

AETIOLOGY

i) Unhealthy food habits

ii) Excessive intake of Iyan promoting diet

iii) Various fumes and pollens from grains, rice and ragi

iv) Inhaling irritable smelling substances.

<u>According to Yugi Vaidhya Chinthamani</u>

“ntbk‹w mÂfkh« òifædhY«
ÛW»‹w ghd¤jhš ä¡Fªjhnd
ghd¤jhš gukh¡»å äF¡ifahY«
ghukh är§fŸ òÁ¡ifahY«
jhd¤jh‰ rŠrhuª jé®¡ifahY«
rçglh gjh®¤j§fŸ òÁ¤j jhY«
Ôd¤jh‰ òÁahkèU¡ifahY«
nræiHah® nkè‹ gŠ ÁijtjhY«
khd¤jhš khJ¡f kilj yhY«
kj¤jhY« RthrkJ kUÎ§fhnd”

i) Excessive Smoking

ii) More intake of cold drinks

iii) Excessive heat produce due to cold drinks

iv) Excessive non-vegetarian diet

v) In take of unhygienic food

vi) Starvation

vii) Sexual Perversion

viii) Grief

ix) Aggressive behaviour

ACCORDING TO JEEVARAKSHAMIRTHAM

i) Excessive Cough

ii) Intake of substance which promotes vali

iii) Diarrhoea and vomiting

iv) Anaemia due to toxic substances

v) Exposure to cold climate and cold air

vi) Trauma in the vital organs

ACCORDING TO SIDDHAR KAIYELUTHUPIRATHI

“fhšbgU¡FzÎ¥ bghUŸ j©Ù® khwš
fUÂUkš äfš thªÂ Fë®ªj fh‰W
khš brŒJ ehŸnjhW« tU¤J§fhŒ¢rš
kªjd Kæ®ãiyæš mofŸ jh¡fš
Vy Ój ngÂ él gh©L òiffŸ
Ïy»a bešyhÂ kâ¢RizÍ£ bršyš
nkš têæš Áy tçD« äiu¥gh« nehÍ
nkÎbkd Kåt®fŸ és«Ãdhnu”

i) Ingestion of food which promotes vali,

ii) Different contaminated Drinking Water

iii) Chronic Cough

iv) Excessive vomiting

v) Exposure to cold air

vi) Chronic Fever, Trauma in the Vital organs

vii) Dysentery

viii) Anaemia due to toxins, fumes

ix) Exposure to dusts from food grains

ACCORDING TO ANUBAVA VAIDHYA DEVA RAGASIYAM P.No.116

i) Increased vatham and kapam

ii) Dysentery

iii) Vomiting

iv) Anaemia due to toxicity

v) Chronic fever

vi) Dust, fumes

vii) Dust from food grains

viii) Trauma in the vital organs

ACCORDING TO ROGA NIRNAYASAARAM YENNUM ROGA NITHANAM P.No.94

i) Fever

ii) Cough

iii) Dysentry

iv) Anaemia due to toxins

v) Vomiting

ACCORDING TO ASTROLOGY Page No.7

In Astrology the symptoms of Swasakasam arises in person in when the planatory position of Sani, Ragu and Sevvai in the first place.

“rå, br›thæuhFnk æy¡»z¤ ÂU¡»‰
J©lK kh®ò Jo¡FŠ Rthr fhr¤jhš”

If Saturn is posited in the sixth house with Kuligan and aspected by Ragu, Mars, Sun etc., it manifests Swasakasam.

“Õ®¡F kh¿‰ rå Fëf‹ TluhF fÂ® br›thŒ
gh®¡»š Rthr fhrbkd¥ gf®t®”

SIGNS AND SYMPTOMS

Persons affected by this disease will already know the alarming signs before the symptoms occur that is exposure to allergens present in Food and air will immediately stimulated the respiratory tract and Produce such as Rhinitis, sneezing, chest tightness, Dyspnoea.

Siddha Maruthuvam

ACCORDING TO THERAIYAR VAGADAM P.No.66

tªÂL« btŸnsh¡ fhs« tahJ Â¤Â¥ ghF«
behªÂL« Ãlçk©il kªjK« äis¥Ãndh§F«
Kªjnt jiyjh bdhªJ rçu KfK§ F¤J«
fªju¤ bjh©il ehÁfu fbu‹W lnd J«kš.

i) Belching
ii) Sweet taste in the mouth
iii) Headache
vi) Loss of appetite
v) Pain present all over the body especially neck and face

vi) Soreness of throat

vii) Irritation in the nose

viii) Sneezing

ACCORDING TO VAIDHYA CHINTHAAMANI Page No.302

“t©ikahŒ¡ nfhiH¡f£o ÏUä
khehf« nghynt th§FŠ Rthr«
Â©ikahŒ¢ brUkY©lh ko¡fo¡F¢
Óuzäš yhkny tæW CJ«
e©ikahŒ ehÁaJ jzš nghyhF«
eSªJl«ò t‰¿ tU§ FuY§ f«K«
c©ikah Í©zh¡» ÿW§ nfâ
cH‰Wnk Rthrh r¤Â bd¥ng

i) Productive cough

ii) Respiration similar to snake sound

iii) Irritation of Pharynx

iv) Bloating of Stomach

v) Nasal Congestion

vi) Hoarseness of voice

vii) Hyper salivation

viii) Vomiting

ACCORDING TO ANUBAVA VAIDHYA DEVA RAGASIYAM

P.No.116

i) Pain present in the chest and costal region

ii) Dyspnoea

iii) Abdominal distension

iv) Headache

SIDDHAR KAIYELUTHU PIRATHI

kh®Ãš éyhéu©oš k‰WäU be‰¿æš nr®ªJ
tè¤jš Âzwš m~jhš _¢R
c¥gš tæ‰¿š cUJnt K‰F¿a¢
brŒÍ äiu¥ò nehŒ Ïjid nr®.

i) Chest discomfort

ii) Frontal headache

iii) Breathlessness

vi) Abdominal distension

v) Dyspepsia

ACCORDING TO DHANVANTHRI VAIDHYAM Page No.220-222

“thÍÎlnd Ány‰gdK kUé ead nkndh¡»
ahÍ Rthr äfÎ©lha¿Î ka¡F§f© RHY«
nka nt®it fgäid nkÎky _¤Âuª ÁY¡Fª
njhÍ _®¢ir äfÚSª Rthr Fzbkd¿thnu”

i) Breathlessness

ii) Giddiness

iii) Profuse sweating

iv) Decreased urine output

v) Constipation

ACCORDING TO ROGA NIRNAYA SAARAM

i) Pain in the Chest, costal region

ii) Abdominal distension

iii) Dyspnoea

iv) Wheezing

v) Cough

CLASSIFICATION

The siddha system Eraippu Erumal is classified according to its signs and symptoms, variations are found in the classification by different siddhars.

SIDDHA MARUTHUVAM – 5 TYPES

1. Vali eraippu noi
2. Iya eraippu noi
3. Iya Vali eraippu noi
4. Mukkutra eraippu noi
5. Melnokku eraippu noi

JEEVARAKSHAMIRTHAM – 5 TYPES

1. Soothira swasam
2. Thamakka swasam
3. Vichinna swasam
4. Maha swasam
5. Oorthuva swasam

YUGI VAIDHYA CHINTHAMANI – 12 TYPES

1. Vatha kasam
2. Pitha kasam
3. Iya kasam
4. Vathapitha kasam

5. Pitha iya kasam
6. Mukkutra kasam
7. Manthara kasam
8. Pakka manthara kasam
9. Sudar kasam
10. swasa kasam
11. Raktha kasam
12. Peenisha kasam

SIDDHAR KAIYELUTHU PIRATHI – 5 TYPES

1. Sitriraippu
2. Pereraippu
3. Thinaral eraippu
4. Manthara eraippu
5. Mel eraippu

ANUBAVA VAIDHYA DEVA RAGASIYAM – 5 TYPES P.No.116 – 117

1. Arpa swasam
2. Thamaraga swasam
3. Vichchinna swasam
4. Maha swasam
5. Oorthuva swasam

ROGA NIRNAYASAARAM – 5TYPES P.No.94

1. Oorthuva swasam
2. Arpaswasam
3. Vichchinna swasam
4. Maha swasam

5. Manthara swasam

SARABENDHIRA VAIDHYA MURAIGAL
Kasa Swasa Chikichai – 6 Types

1. Maha swasam
2. Oorthuva swasam
3. Thamaka swasam
4. Soothira swasam
5. Piratha maha swasam
6. Santha maha swasam

SUSHRUTA SAMHIDA

1. Kshudra swasa
2. Thamakka swasa
3. Chinna swasa
4. Maha swasa
5. Oorthuva swasa

CLINICAL FEATURES – IN SIDDHA MARUTHUVAM

In take of excessive Iyam promoting food due to exposure to rain and cold breeze which also promotes Iyam causes running nose, Congestion of nose, allergic rhinitis and sinusitis relieved spontaneously after some times. Difficulty in breathing, chest tightness, Dryness of the tongue, Redness of Eyes, Giddiness, Wheezing may occur.

YUGI VAIDHYA CHINTHAMANI

Eraippu Erumal symptoms are more (or) less equal to mantharakasam and swasa Iyam.

Yugi is classified in the Iya diseases to three major categories.

1. Kasanoi Padalam

2. Elaippu noi

3 Iyanoi padalam

SWASA IYAM (IYA NOI PADALAM)

ÂwkhŒ beŠÁjåš nfhiH f£L«

Á¡bf‹W jhåUä _¡f il¡F«

FwikahŒ¡ fw£bl‹W Rthr§ fhQ«

FënuhL RuK©lhŒ ka¡f khF«

kwikahŒ kh®nghL beŠril¡F«

thŒtu©L _¡fjåš Únuh ghÍ«

btWikahŒ äf¤j©â® jhgK©lhŒ

éLRthr Ianehæ‹ étuª jhnd

- Vaidhya Chinthamani P.No. 273

- Accumulation of phlegm in the lungs
- Cough, Nasal congestion
- Wheezing
- Fever with Rigor
- Tightness of the chest
- Running nose
- Dryness of mouth
- Excessive thirst

MANTHARA KAASAM

jhdhd öanjh® ehÁ j‹åš

rynehŒ Ú® jh‹ éGªJ J«k Y©lhŒ

khdhd kh®ò beŠ ril¤J _¢R

tYthf¥ gh«ònghš ÓwyhF«

fhdhd f©lbkhL KfK§ fhJ«

fhakJ§ fÁth» éa®it ahF«

Vdhd ÏUkbyhL nfhiH f«kš

Ïiu¥ghF kªjhu¢ fhr khnk

- Vaithya Chinthamani P.No. 299

i) Running nose

ii) Sneezing

iii) Difficulty in breathing

vi) Wheezing

v) Sweating especially of neck, face, Ears

vi) Dry or Productive Cough

vii) Chest tightness

JEEVA RAKSHAMIRTHAM

i) Difficult to Expel the sputum

ii) Giddiness, chest pain

iii) Throat irritation nasal congestion, polydypsia

vi) Upward looking of the patient due to want of air as well as respiration on the forehead, dryness of the tongue are present

VAIDHYA CHARA SANGRAGAM

i) Itching on the face and ear

ii) Irritation in the nose and sneezing

iii) Cough

vi) Running nose

v) Pain in the chest and ribs

vi) Anorexia

vii) Disturbances increases in the manthara kaalam (Seasonal Variation)

NOI NADAL AND NOI MUDHAL NADAL

Thirst perspiration, vomiting and a musical sound in the throat and chest called Eraippu. In a case of Eraippu Erumal the patient is weak and has a loud sound in the throat and dry cough the symptoms of catarrh and an aversion to food. He is distressed with difficulty in breathing during sleep.

MUKKUTRA IYAL

Our siddha system is based on the fundamental principles they are

1. Vali
2. Azhal
3. Iyam

These three humours are combination of pancha boodhas i.e.

Vali – Air and space

Azhal – Fire

Iyam – Earth and water

The three humours have different functions. The right proportion of each is responsible for maintaining good health. When these three humours are disturbed if manifests as a pathologic state of the body. Physiology, Pathology and treatment or management comes under to play its role under this topic

“ ä»D§ FiwæD« nehŒ brŒÍ« ünyh®

të Kjyh v©âa _‹W” - FwŸ.

Vatham, Pitham, Kabam

The description in anatomical and Physiologically vatham has been made in ten forms with various function where as pitham and kabam have been classified in five forms with different functions.

Location of Vatham:

Vatham is located in the abanan, faeces, idakalai, spermatic cord, pelvic bone, skin, nerves, hairs and muscles.

Location of Pitham:

Pitham is located in Pirana vayu, Pingalai, bladder, moolakkini, heart, umbilical region, abdomen, stomach, sweats, saliva, blood, eyes and skin.

Location of Kabam:

Kabam is located in samanavayu, sperm, head, tongue, vulvae, fat, bone marrow, blood, nose, chest, nerve, bone, brain, eyes and joints.

Types of Vatham:

1. Pranan (Uyirkkal):-

This controls knowledge, mind and five objects of senses Responsible for breathing and digestion.

2. Abanan (Keezh Nokkukaal):-

Responsible for all downward movements such as passing urine stools. Sperm including menstrual flow. Gets the ingested food extracts to their respective places.

3. Uthanan (Mel Nokkukkaal)

Causes transportation of the ingested food to different parts of the gut .Responsible for all upward visceral movement such as vomiting eructation etc.,,

4. Viyanan (Paravukkal):-

Viyanan spreads all over the body in all nerve endings and causes constriction and relaxation of muscles. This is also responsible for movement of all parts of the body.

5. Samanan (Nadukaal)

This is the neutralising force for the above four vagus and aids proper digestion.

6. Nagan:-

Responsible for higher intellectual functions- learning, thinking, etc., causes opening and closing of the eyes.

7. Koorman:-

Responsible for vision, lacrimal secretion and yawning, and helps for body building.

8. Kirukaran

Responsible for salivation, nasal secretion, appetite and also concentration of mind.

9. Thevathathan

Responsible for laziness, sleeping and anger

10. Dhananjeyan:-

Produces bloating of the body after death. It escapes on the third day after death by bursting the cranium.

Types of Pitham

1. Analam:-

This is responsible for the change of liquid state in to solid state of food substances and for proper digestion.

2. Ranjagam:

Converts the food extracts in to blood. Gives red colour to blood.

3. Saathagam:

This is responsible for co-ordination and proper functioning of the other types of pitham. Causes determination and memory.

4. Aalosagam:

This is responsible for vision.

5. Prasagam:

Gives complexion and colour to skin.

Types of Kabam:

1. Avalambagam:

Aids the proper functions of other four varieties of Kabam helps respiration and causes firmnets of the limbs.

2. Kilethagam:

Makes the food moist and soft to help digestion.

3. Pothagam:

Responsible for identifying taste in the tongue.

4. Tharpagam:

Present in the head and responsible for the coolness of sense organs.

5. Santhigam:

Responsible for the lubrication and free movements of the joints, situated in the joints.

MUKKUTRA VERUPADUKAL

Eraippu noi is also due to deranged condition of the three vital factors. (Mukkutram).

In siddha literature that over eating promotes Iyam close conduct with the cold breeze mountain living and exposure to moist weather causes various clinical features of this disease. Some times it is caused either by increased Vali (or) Azhal.

The prime factor which is involved in this disease is iyam because of the deranged condition of the iyam in the respiratory organs which affects the Uyir thathukkal and melnokkukal and the air is not able to reach the terminal point of respiration deranged samana vayu leads to shallow breathing. When there is increased Kilethagam, analapitham is also deranged when either Iyam or Vali exaggerated all three kuttrams or deranged.

This disease is caused by narrowed bronchi which block the air passages dietetic causes of Mukkutram promotes in digestion which leads to dysponea and cough with expectoration because of aggravated pitham there is the formation of more heat leads to resulting in running nose, heaviness of head and neck, sneezing, burning of the eyes, excess salivation etc.

When the Iyyanaadi appears predominantly it produce cough, sputum and dyspnoea and wheezing. It is indicated that when both vali and Iya naadi appears predominantly the symptoms are their disease will appear. A similar effect is attributed when Iyam and Azhal are affected some times.

Some reference say it is caused by deranged Vali. It is admitted because the respiratory air flow is obstructed.

In Anakatham, Uthanan and Pranan is deranged.

EZHU UDAL KATTUGAL:

Saaram:

It is responsible for the growth and development. It keeps the individual in good sprit and it nourishes the blood.

Senneer:

Blood imparts colour to the body and nourishes the muscle responsible for the ability intellect of the individual.

Oon:

It gives shape to the body according to the requirement for the physical activity.

Kozhuppu:

It helps in lubricating the different organs.

Enbu:

Supports the system and responsible for the posture and movements of the body.

Moolai:

It fills the bony cavity and nourishes them.

Sukkilam (Or) Suronitham:

It is responsible for the reproduction.

PINIARI MURAIMAI (DIAGNOSTIC METHODS)

Diagnosing a disease is more important for a physician to find out the cause of the disease. Complications and different diagnosis which is very helpful to undergo a correct line of treatment.

It is based on the three main principles.

1. Poriyal Therthal
2. Pulanal Therthal
3. Vinathal

1. Poriyal Therthal:

Pori means organs of perception. Poriyal therthal is understanding by the five organs of nose, tongue, Eyes, Skin and Ear.

2. Pulanal Therthal:

Pulan means objects of senses. Pulanal therthal understands by the sense objects.

1. Smell (Manam)
2. Taste (Suvai)
3. Vision (Oli)
4. Somatic sense (Ooru)
5. Sound (Oosai)

3. Vinathal:

Vinathal is the process obtaining the detailed history of the disease by interrogating the patient. By this gathering the history of disease, complaints and duration, personal history, family history, clinical features. Where on accurate history is available, a disease can be easily diagnosed ever before clinical examinations carried out.

KAALAM (Age Distribution)

“t‹ikah« thjkJ K¥gjh©L
k£Lnk tsU»‹w fhykhF«
bg©ikah« Ã¤jkJ K¥g¤J _‹W
ngâna tsU»‹w fhykhF«

Â©ikah« nr£gkJ K¥gnjG
branyhL tsU»‹w fhykhF«
c©ikahŒ¢ rlkjD¡ bfhU üwh©L
Yfªj kh§fUé fëDWÂ nfns”

- nehŒehlš Âu£L.

The life span of human being is 100 years. This is divided in to 3 stages according to the domination of the 3 humours.

- Vali period – 1 to 33 years.
- Azhal period – 34 to 66 years
- Iya period – 67 to 100 years.

THINAIGAL:

1. Kurinchi : Mountain and its surroundings.
2. Mullai : Forest and its surroundings
3. Marutham: Field and its surroundings
4. Neithal : Sea and its surroundings
5. Palai : Desert and its surroundings

Kurinchi:

“F¿ŠÁ tUãy¤Âš bfh‰w« c©L Ïu¤j«
c¿ŠÁ tU RuK©lh« - m¿PUiu¡F
Iank j§F cju¤jhik tšiyÍ§ fÂ¡F«
Iank j§Fk¿”.

People live in Kurinchi land are more prone to develop Iya noi.

Palai

ghiy ãy« nghš gliu Ãw¥Ã¡f
nkiy ãy« ahJ éç¤j‰F – ntiy ãy«
K¥Ãâ¡F« Ïšy« Kiwna at‰wyh«
v¥Ãâ¡F« Ïšy«

People live in palai land are more prone to develop mukkutram.

So Iya eraippu noi is found in this land.

PARUVA KAALAM (Seasons)

With reference to the position of the sun a year is divided in to six seasons.

They are:

1. Kaar Kaalam - Aavani and Puratasi (Aug, Sep)
2. Koothir Kaalam – Aipasi & Karthigai (Oct, Nov)
3. Munpani Kaalam – Margali & Thai (Dec, Jan)
4. Pinpani Kaalam – Masi & Panguni (Feb, Mar)
5. Elavenil Kaalam – Chithirai & Vaikasi (Apr, May)
6. Muduvenil Kaalam – Aani & Aadi (June, July)

Udal Vanmai:-

Smartness strength and vitality constitute udal vanmai. It is classified in to three types

1. Iyarkai Vanmai – Inherited Immunity and power
2. Kaala Vanmai – Vitality that is generally found in different age periods on the basis of inherited constitution.
3. Seyarkai Vanmai – Improvement of vitality obtained by goods habits. Physical exercise and proper diet.

ENVAGAI THERVU

“eho gçr« ehãw« bkhê éê
ky« _¤Âuäit kU¤JtuhÍj«
- nju‹

“bkŒ¡F¿ ãw«, bjhå éêeh ÏUky« if¡F¿ - mf¤Âa®

“ehoahš K‹ndh® brh‹de‰ F¿ Fz§fshY«
thoa nkåædhY« kynkhL ÚçdhY«

Noa éahÂ j‹id¢ Rf« bgw m¿ªJ bfhŸns”

- mf¤Âa®

eaKW thfl¤njh® ifædh oia e‹dhit

éaDW f©iz bkŒia és¡Fth‹ Kf¤ij

gšiy¡

faKW kyry¤ij¡ fU¤Jw¡ f©L ehS«

gaDw¤ bjë¤Âš bt£L« gh®¤Âlš g©òjhnd

m§fhÂ ghj« g¡f« 23

1. Naa
2. Niram
3. Mozhi
4. Vizhi
5. Sparism
6. Malam
7. Moothiram
8. Naadi

1.Naa (Tongue)

Colour coating, dryness deviation and movement of the tongue is noted

Iyam – have light white or pale yellow in colour.

“Ány¤Jk nuh» æ‹w‹ ehÎ jo¤J btS¤ÂU¡F« ghnu”

2.Niram (Colour of the Skin)

Due to deranged condition of Iyam the niram of patients skin will look pale

“k‹åa nr¤Jk Û¿š khrha« btS¡F nkå”

3. Mozhi (Speech)

Iyam:- Speaks slowly and cautiously without volunteering information, may have to be drawn out of them.

Iyam voices tend to be lower in pitch and intensity than the others but are usually more melodious.

“Ianuh» æ‹w‹ th®¤ij
baëjhf® ÁW¤ÂU¡F äašlh jhF«”

Vizhi (Eyes)

Iyam:- Eyes are large and lacrimation some times blue more often milk or chocolate in colour. The siddha texts compare them to the eyes of a deer or the petals of the loutus.

“nfhJ‰w Ány‰gd¤ njh®¡F T®éê btS¤ÂU¡F«”

Sparism (Palpation)

By sparism the temperature of the body heat or cold, nourishment, smoothness, dryness, hard patches, sweating, abnormal growth, tenderness, ulcer, nourishment can be noted.

“nr£k¤Â‹ njfªjhD« Á¡bf‹W Fë®ªÂU¡F«”
“nr£grl« nt®it bfh©nlæU¡F«”

Malam (Stool):-

In the examination of malam the colour its nature, where solid, semi solid or watery its quantity (Increased or decreased) are noted. Other examinations like presence of ova, cyst, presence of occult blood mucus undigested food in the stool and odour is also noted.

“kykwÁ¡fyhf btS¤ÂL ika¤Â‰F”
“k‹DŠ nr¤J k¤njh® ky« ÅœF¿
Ï‹dš Ôu tU« btS¥bg‹dnt”
“ik¡Ftis khndnf isa nuhf«
kykJ jh‹ bt©ikãw khæU¡F«”.

Moothiram (Urine)

By proper urine analysis as prescribed by siddhars the colour, odour, quantity the presence of froth, deposits, blood, pus, abnormal consequents like sugar, protein etc., frequency of urination is also noted, . (nr£Lk Ú®)

COLLECTION OF URINE FOR EXAMINATION:-

“mUªJ kh¿ujK« ménuhjkjhŒ
m~fš my®jš mfhy ñ‹ jé®ªjH‰
F‰wstUªÂ cw§» itfiw
Mo¡fyr¤ jhéna fhJbgŒ
bjhU KT®¤j¡ fiy¡F£gL Úç‹
ãw¡F¿ beŒ¡F¿ ãUÃ¤jš flnd”

Early morning urine is best for urine analysis.

Neerkuri:-

“tªj Ú®¡fçvil kz« Eiu vŠrbyd
iwªÂa Ystit aiwFJ Kiwna”.

Niram	:	Colour of the urine
Edai	:	Specific gravity of urine
Manam	:	Odour of urine
Nurai	:	Frothy nature of the urine
Enjal	:	Deposits in urine

Iya disease – urine Colour:-

“mU¢Rd¤ bjhLEiu ò‰òj« vêD«
mUªJ Úbuh¡»D« méæid x¡»D«
fy¥bgêš c¿Dk¡ fh©l« fgnehŒ
jiy¥gL§ fhiyæš rh®ªÂL« v‹gnu”

All Iya disease urine is white, frothy and oily in character.

Nei Kuri

“mubtd Ú©ood ~nj thj«
Mêngh‰ gué‹ m~nj Ã¤j«

K¤bjh¤J ã‰»‹ bkhêtbj‹ fgnk”

Oil stands like snake, ring and pearl in shape represents vali, azhal, Iyam respectively.

i) When one drop of oil is dropped on the surfaces of urine if it extends like snake it indicates vali

ii) When one drop of oil is dropped on the surfaces of urine if it extends like a ring it indicates azhal

iii) When one drop of oil is dropped on the surfaces of urine if it extends like a pearl if it indicates Iyam.

Naadi (Pulse)

“fçKfdoia thœ¤Â¡
ifjåš eho gh®¡»š
bgUéuy§Fy¤Âš
Ão¤jo eLnt bjh£lhš
xU éunyhoš thj«
ca®eLéuè‰ Ã¤j«
ÂUéuš _‹¿nyhoš
Ány¤Jk ehojhnd”. - mf¤Âa® eho clèš cæ® jç¥gj‰F fhuzkhd r¡Â vJnth mJnt jhJ mšyJ eho vd¥gL«.

<u>GENESIS OF NAADI</u>:-

The three thathukkal are found by the combination of three naadies with three vayu

Eda kalai + Abanan → Vali

Pingalai + Pranan → Azhal

Suzhumunai + Samanan → Iyam

The pulse is recorded in the radial artery by keeping the ring finger middle finger and the index finger on it after gently scrubbing the area. The

index finger must be kept 2.5cm proximal to the wrist joint. It is one unit in vali as felt by the index finger half unit in azhal as felt by the middle finger and one fourth unit Iyam, as felt by the ring finger.

PRESENCE OF NAADI IN ERAIPPU ERUMAL

T¿ndh« Ány‰gdkJ rkhdthÍ
bfhGÁnanlh RêKidia g‰¿ éªÂš
Ó¿na ÁuÁyh¡ »idia¢ nr®¤J
Á§Fit a©zh¡F ãzk¢ir u¤j«
Û¿na ãw§ nfhz« eu«bgY«Ãš
nkâanjh® _is bgU§Flè‰ f©âš
nj¿anjh® bghUªjl§fi sšyhŠ
nr®¤J Ány£L« kJ Å‰¿U¡FŸ jl§f‹lhna
Á»¢rhu¤Âd Ôg« it¤Âa Áªjhkâ ghf« 2

Suzhumunai combined with samanan to form of Iyam. When the symptoms of Iyam exaggerated leads to the clinical feature of Eraippu.

Vaidhya sarasangirakam:-

é©âš nuh» és¡F« nr¤Jk«
Â‹dkh Kf« Âiu éêehÎlš
f©â‰ Õis fUkyªjh‹ btS¥ghf¥
Ã‹åna éiy gf®ªÂl¡ fh£Lnk”

Face, conjunctiva, tongue, teeth are pale in colour. Increased lacrimation, Motion are white in colour.

Pathinen Siddhar Naadi:-

Iank fÂ¤j nghj¿ant bghUkš fhQ«
miuÍ kªjhu fhr« eë® Fë® é¡fš rªÂã
brŒÍkh _¢ril¥ò ÔjJ fhrnuhf«
bjhŒÍkh äiu¥ò fhr« njhwWkjhf¢ brh‹dhnt.

Increasing Iya naadi is associated with dyspnoea, fever associated rigor, hiccough, vomiting.

Thirumoolar Naadi

él§»a Ia nkåiu¥ bg‰¿L«
jl§»æU äUªj‹ éyhéu©L« nehF«
ml§»¢ Ru§fhÍ mst‰w nfhiHÚ®
Ïl§»Ílš t‰¿ æu¤jK« f¡Fnk,

When Iya naadi predominates from is normal rhythm it indicates

Dyspnoea
Cough & Expectoration
Chest pain
Fever
Emaciation
Haemoptysis

Iaeho:-

“jhdKŸs nr¤J kªjhås»š bt¥ò
raÛisæUkš kªjhu fhr«
<dKWŠrªã élnjhl« é¡fš
æU¤nuhf§fu¥gh‹ éuz njhl«
khdidæ® Niy ÂuŸ éahÂ Å¡f«
tUŠr¤Â **Rthr«** beŠril¥ò ö¡f«
VdKW§ fhkhiy gh©L nrhig
VG Ru§fŸ gyJ¡f« él K‹lhnk” - rjfeho

të Ia eho:

“ gh§fhd thj¤Âš nr¤Jk eho¥
gçÁ¤jhš Âä® nkÎ Kis¢r yhF«,
Ô§fhd ÏUkYl‹ rªã njhl«
nr®ªj él« bto Niy æU¤nuhf«

th§fhj <is kªjhufhr«

tèÍlnd òwÅ¢RÍŸ Å¢R Å¡f«,

x§fhQŠru Klnd **Rthrfhr«**

c©lhF« btF nehŒ¡F KWÂ jhnd” - rjfeho

IamHš eho:-

Ïlkhd nr¤Jk¤Âš Ã¤j eho

vGªjQ»š élKlnd Å¡fK©lh«,

Âlkhd Fë®fhŒ¢rš kŠrŸ nehÎª

njf¤ÂYis¢rèis¥ ÃUkš thªÂ

élkhd beŠril¥ò **Rthr«** é¡fš

btFRuK« ehtw£Á gh©L nuhf«

mlkhd Ftisu¤j kÂrhuªjh‹

mQ» btF gy nehŒ¡F¤ jl§f©lhna. - rjfeho

ANATOMY

THE RESPIRATORY SYSTEM

Respiration is defined as exchange of gases between body tissues and environment. The respiratory system is formed by the following organs.

1. Nose
2. Nasal Passages
3. Nasopharynx
4. Larynx
5. Trachea
6. Bronchi
7. Lungs.

The upper respiratory tract includes the nose, nasopharynx, and larynx. It is lined by vascular membrane with ciliated epithelium on their surface.

The lower respiratory tract includes the trachea and bronchi. It is lined by ciliated epithelium as far as the terminal bronchioles.

Nasal Cavity (Nose)

The nasal cavity is the entrance of the respiratory system. It is divided in to right and left cavities by the nasal septum.

Boundaries of the nasal cavity:-

1. Roof 2. Floor 3. Lateral wall 4. Medial wall 5. Anterior nasal opening called vestibule 6. posterior nasal opening.

The roof of nasal cavity is formed by the cribriform plate of ethmoid bone.

The floor is formed by the palate.

Anterior nasal opening is provided with hairs called vibrissae.

The posterior nasal opening is called choana. It opens in to the naso pharynx.

Lateral Wall of the Nose:

1. The lateral wall of the nose has elevations called conchae and depressions called meatuses.
2. There are 3 conchae and 4 meatuses.
3. The para nasal air sinuses open in to the meatuses of the lateral wall of the nose.
4. The nasolacrimal duct opens in to the inferior meatus of the nose, through this tears enters the nose.

Nasal Septum (Medial wall)

Constituents;

1. Vomer bone
2. Ethmoid bone
3. Septal cartilage

LARYNX:

The larynx is called voice box. It is situated in the anterior part of the neck in front of the pharynx.

Length:

Male - 44mm

Female - 30mm

It is formed by nine cartilages and muscles. The cartilages of the larynx are classified in to paired and unpaired cartilages

The paired cartilages

a. Arytenoid cartilages
b. Corniculate cartilages
c. Cuneiform cartilages

The unpaired cartilages:

a. Thyroid cartilage (or) Adam's Apple – Largest cartilage of the larynx.
b. Cricoid cartilage
c. Epiglottis

Interior of the Larynx:

Interior of the larynx is lined by mucous membrane which was ciliated columnar epithelium.

There are two pairs of mucous folds.

a. Vocal folds
b. Vestibular folds.

Within the vocal folds vocal cord is situated. Between the two vocal folds, there is a space called Rima glottidis.

Between the two vestibular folds there is a space called Rima vestibuli vocal cords are concerned with the production of voice.

TRACHEA (Wind Pipe)

This is a tubular passage extending down from the larynx

Situation : Neck and thorax

Length : 10 -11 cm

Diameter :

Male : 2 cm

Female : 1.5 cm

Commencement:

Downward continuation of larynx at the level of the body of the sixth cervical vertebra.

Course:

It passes down the neck and enters the superior mediastinum of the thorax.

Termination:

It terminates by dividing into right and left bronchi. The trachea has 16-20 rings formed by hyaline cartilage.

Epithelial Lining:

Ciliated columnar epithelium. The posterior part of the trachee has trachealis muscle.

Blood supply:

1. Interior thyroid arteries
2. Bronchial arteries

BRONCHI:

The trachea divides in to right bronchus and left bronchus. These bronchi conduct air to the lungs.

Right bronchus:

It is about 2.5 cm long. It is wider and vertical than left bronchus so foreign bodies easily enter in to the right lung throught right bronchus. It divides in to 3 lobar bronchi.

Left Bronchus:

It is about 5 cm long. It divides in to two lobar bronchi.

Bronchioles:

The bronchi divide further into bronchioles. The bronchioles are small air passages. The bronchiolar wall has no cartilage. The terminal bronchiole opens into the respiratory bronchiole.

Alveoli (Airsac)

The respiratory bronchioles divide in to Alveolar ducts. Alveolar ducts open in to air sacs called alveoli. The basic unit of the lung tissue is alveoli. Alveoli are lined by flat epithelial cells. There is a network of capillaries around the alveoli. This arrangement helps in the gaseous exchange.

LUNGS

The lungs are essential organs of respiration. There are right and left lungs. It is situated within the pleural cavity found within the thorax.

In the child they are pink in colour but with age they become dark and mottled due to the inhalation of dust particles.

Weight:

Each lung has about 650 grams.

Shape : Conical

Parts:

Apex - Pointed

Base - Broad and concave

Medial surface - has hilum

Lateral surface - convex

Borders:

Lung has three borders

Anterior border – sharp

Posterior border – Blunt

Inferior border - Sharp.

The anterior border of left lung shows the cardiac notch. Each lung is surrounded by a double layered membrane called pleura.

The right lung has 3 lobes

Upper lobe, middle lobe and lower lobe.

The left lung has 2 lobes.

Upper lobe and lower lobe.

Hilum:

The medial surface of each lung shows the hilum. Through the hilum structures entering and leaving the lung. The structure passing through the hilum of the lung are

1. Bronchus:

Carries air in and out of lung.

2. Pulmonary artery:

   Carries impure blood from the heart to the lungs for purification.

3. Pulmonary veins:

   Carry pure blood from the lungs to the heart.

4. Pulmonary nerves and lymph vessels.

5. Bronchial vessels.

Blood Supply:

Bronchial arteries supply pure blood to the lung parenchyma.

Nerve Supply:

The lungs are supplied by the vagus and sympathetic nerves.

Lymphatic Drainage:

Broncho pulmonary lymph nodes.

PHYSIOLOGY

RESPIRATION

Respiration is the exchange of gas between the body and environment respiration has two phases.

1. Expiration
2. Inspiration

During normal quiet breathing inspiration is the active process and expiration is the passive process. During inspiration, thoracic cage enlarges and lungs expand. During expiration, the thoracic cage and lungs decrease in size and attain the pre inspiratory position.

MECHANISM OF RESPIRATION:

The normal respiratory rate is 16 – 20 / minute.

Inspiration:

The inspiration is the process of entry of air in to the lungs.

The following changes occur during inspiration

1. Chest expands
2. The Diaphragm moves downwards. So vertical diameter of the thrax is increased.
3. Intercostal muscles act on the ribs. So the ribs are turned out and elevated. This causes enlargement of the chest cavity.
4. The enlargement of the chest cavity permits the enlargement of lungs.
5. When the lung is enlarged, pressure inside the lung is reduced. This leads to entry of more air in to the lungs.

Expiration:

This is the process of expulsion of air out of the lungs.

The following changes, occur during expiration.

1. The diaphragm is relaxed and moves upwards.
2. Inter costal muscles are relaxed. So the ribs move inwards. As a result the capacity of thoracic cavity is reduced and so the air is gradually expelled out.
3. Intrapulmonary pressure in the resting position is equal to atmospheric pressure (760mm of Hg)

Composition of inspired air

a) Oxygen - 21 %

b) Carbondioxide - .04%

c) Nitrogen - 79%

Composition of expired air:

a) Oxygen - 16.4%

b) Carbondioxide - 4.1%

c) Nitrogen - 79.5%

Respiratory quotient (R.Q)

Food and respiratory quotient:

R.Q. of Carbohydrates	-	1
R.Q. of Fats	-	0.7
R.Q. of Proteins	-	0.8

Regulation of Respiration:

The respiration is regulated by

1. Neural mechanism
2. Chemical mechanism
3. Reflex mechanism.

1. Neural mechanism:

The respiratory centre is situated in the medulla oblongata and pons.

a) Pneumotoxic centre – situated in the pons.

b) Inspiratory centre – situated reticular formation of the brain stem.

The inspiratory centre is more powerful than expiratory centre.

Respiration is automatic and has rhythmic activity.

Efferent impulses are passed from the brain to the diaphragm and intercostal muscles.

Afferent impulses are carried from the lungs to the brain via the vagus.

2. Chemical mechanism:

In the chemical regulation of respiration, if the carbon dioxide concentration in the blood is increased, then the chemoreceptors are stimulated.

The chemoreceptors are carotid body and aortic body. The carotid body is situated at the terminal end of the common carotid artery. The aortic body is situated on the arch of aorta.

The impulses are carried from the chemoreceptors to the respiratory centre of the brain.

3. Reflex mechanism (Hering – Breuer reflex)

The lungs contain some stretch receptors, Expansion of lungs stimulates these receptors. As a result the respiratory centre is inhibited. So inspiration stops and expiration begins. During expiration the lungs contract. So inhibition of respiratory centre stops. As a result inspiration starts again. This reflex is called hering – Breuer's reflex.

The Gaseous Exchange:

Gaseous exchange takes place within various parts of the body. It occurs in two stages.

1. External Respiration
2. Internal Respiration

External Respiration:

In External respiration gaseous exchange takes place within the lungs. The supply of blood to the tissue depends on the oxygen tension.

Oxygen tension in the alveoli of lung is 100mm of mercury.

Oxygen tension in the blood is 40mm of mercury

Co_2 tension in the blood is 46mm of mercury

As per the diffusion principle O_2 from greater pressure area diffuse in to a low pressure area.

So O_2 from the alveoli of the lungs enters in to the blood and Co_2 enters from the blood in to the alveoli of lungs. This Co_2 expelled out during expiration.

Internal Respiration:

In internal respiration, gaseous exchange takes place within the tissues of the body. In internal respiration oxygen in the blood combines with haemoglobin to form oxy haemoglobin which is supplied to the tissues.

The O_2 pressure in the tissues is less than the O_2 pressure in the blood. So from the blood O_2 diffuses in to the tissues.

The Co_2 pressure in the blood is less than the Co_2 pressure in the tissues. So from the tissues Co_2 diffuses in to the blood. As a result the blood containing more Co_2 is taken to the lungs for purification.

Oxygen Dissociation Curve:

This curve graphically represents the relationship between partial pressure of oxygen and quantity (%) of O_2 Saturation with the haemoglobin

The normal oxygen dissociation curve may be altered by acidic reactions of the blood and where there is an increase in the body temperature.

Carbondioxide carriage in the blood:-

1. Carbonic acid
2. Carbamino haemoglobin
3. Bicarbonates of the blood

Oxygen Carriage in blood:

1.Simple Solution:-

This is very important because it is equilibrium with the alveolar air. It determine the quantity of oxygen combines with haemoglobin 0.3gm of oxygen is present a simple solution.

2. Oxygen combines with iron of the haemoglobin and forms of oxyhaemoglobin

3. 100ml oxygenated blood contains about 19cc of oxygen is in the form of oxyhaemoglobin.

RESPIRATORY VOLUMES:-

1. **Tidal Volume:**

Tidal volume is the volume of air passing in to the lungs and expelled out of the lungs during quiet breathing. In quiet breathing about 500ml of air leaves the lungs.

2. **Inspiratory Reserve Volume:**

It is the additional volume of air that can be taken in by forced inspiration. It is about 3.3litres.

3. **Expiratory Reserve Volume:**

It is the volume of air that can be expelled by forced expiration. It is about 1.5litres.

4. **Residual Volume:**

It is the volume of air which remains in the lungs at the end of forced expiration. It is about 1litre.

5. **Vital Capacity:**

It is the volume of air that can be expelled by forced expiration after forced inspiration. It is about 4.8litres

6. **Total Lungs capacity:**

Vital capacity (4.8 litre) + Residual volume (1.2litres) = Total long capacity (6 litres)

BRONCHIAL ASTHMA

Definition:

Asthma is a disease of airways that is characterised by increased responsiveness of the tracheobronchial tree to a multiplicity of stimuli. It is manifested physiologically by a widespread narrowing of the air passages which may be relieved spontaneously or as a result of therapy, and clinically by paroxyms of dyspnoea, cough and wheezing.

Prevalence:

Bronchial Asthma is a common disease affecting 10-20% of the population.

It occurs at all ages but predominantly in early life. About one half of cases develop before age 10 and another third occur before age 40. In childhood there is 2:3 Male/Female preponderance, but the sex ratio equalizes by age 30.

Etiology:

i) Cold air
ii) Tabacco smoke
iii) Acrid fumes
iv) Emotional Stress
v) Dust
vi) Respiratory infections (viral, bacteria)
vii) Exercise
viii) Drugs
    a) NSAIDS especially Aspirin.
    b) Beta Blockers
ix) Chemicals:
    a) Sulfiting agents like Na or K bisulfite
    b) Sulphur dioxide etc.

Allergens:

a. Ingested (Fish, nuts, strawberries)
b. Inhaled (Dust, Pollen, house dustmite)
c. Food Additives (Tartazine, Metabisulfite preservatives, Monsodium, ghefamate of ajinomoto)
d. Occupational allergens (Grain-dust, wood-dust)

Pathology:

Inflammation of the airways is brought on by several factors. Eosinophils, T.lymphocytes (CD4+) macrophages and mast cells infiltrate the

bronchial wall. The epithelium is vacuolated and the ciliated cells desquamate several cellular factors play their roles in the inflammatory process. Neuropeptides such as bradykinins, substance P and neurotension A lead to broncho constriction and excessive secretion of mucous.

Mast cells initiate the response on exposure to allergens, excessive osmotic changes and variations in temperature. Macrophages which are derived mainly from circulating macrophages produce cytokines which are either broncho constrictor or bronchodilator. Presence of eosinophils in the inflammatory exudate is characteristic of asthma. Eosinophils are derived from blood stream. Major basic proteins and cationic proteins of eosinophils lead to destruction of mucosal surface. T lymphocyles especially CD4+ produce cytokines IL3 – IL-4, IL-5 and GM, CSF which modify the inflammation possibly plateet derived humoral factors also modify the inflammation.

The main chemical transmitters which alter the airways are histamine, prostaglandin and leukotrienes. These lead to contraction of bronchial muscle, increase in vascular permeability and excessive secretion of abnormal mucous.

Airway inflammation persists for several years. Its severity correlates with the severity of asthma. Hyper responsiveness of the inflamed airways is aggravated by automatic and neural mechanism. The final result is obstruction of the small and mediuem sized airways brought about by mucosal oedema, tenacious mucous and bronchoconstriction.

Types:

Early onset asthma (atopic):

It is common for asthma to have its onset. Childhood, and generally it occurs in atopic individuals who readily form IgE antibodies to commonly encountered allergens. Asthma in these individuals is often referred to as atopic asthma.

The allergen responsible for asthma in atopic individuals generally enter the bronchi with the inspired air and are derived from organic material such as pollen, mite containing house dust, feathers, animal dander and fungal spores. Previous exposures to these agents will have stimulated the formation of IgE and an anaphylactic antigen antibody reaction in the bronchi may follow further exposure to specific allergen. This causes the release, from cells, such s the mast cell in the bronchial wall of pharmacologically active substances which provoke bronchial constriction and as inflammatory reaction of allergic type in the bronchial well.

Late onset asthma (non-atopics)

Asthma can begin at any age in non-atopic individuals and because the majority of these patients are adult this type of asthma is often called late onset asthma. There is no clinical evidence that external allergens play a part in the production of the disease, to which the term intrinsic asthma in sometimes applied.

Clinical Features:

Bronchial asthma may be either episodic or chronic, and although there is a good deal of overlap between these two syndromes the distinction is clinically useful particularly in terms of prognosis and management. There is tendency for atopic individuals to develop episodic asthma, and non-atopic individuals chronic Asthma.

Episodic Asthma:

In this form of the disease the patient has no respiratory symptoms between episodes of asthma. Paroxyms of wheeze and dyspnoea may occur at any time and can be of sudden onset. Episodes of asthma can be triggered by

allergens, exercises viral infections such as the common cold, or may be apparently spontaneous. Attacks may be mild or severe and may last for hours, days or even weeks.

Severe acute asthma:

This term has replaced status asthmaticus as the description of life-threatening attacks of asthma. The patient usually adopts an upright position fixing the shoulder girdle to assist the accessory muscles of respiration. There is often an unproductive cough which aggravates respiratory distress. The respirtory symptoms are accompanied by tachycardia, pulses paradoxus, sweating and, in severe cases, central cyanosis.

Chronic asthma:

Symptoms of Chest tightness, wheeze and breathlessness on exertion, together with spontaneous cough and wheeze during the night may be chronic unless controlled by appropriate therapy. Episodes of severe acute asthma can occur and cough productive of mucoid sputum with recurrent episodes of frank respiratory infection is common in this type of asthma, which in adults may be difficult to distinguish from chronic bronchitis.

Clinical Features:

During the attack the chest is held near the position of full inspiration and the percussion note may be hyperresonant. Breath sounds when not obscured by numerous high-pitched poly phonic expiratory and inspiratory rhonchi are vesicular in character with prolonged expiration. In very severe asthma air flow may be insufficient to produce rhonchi a silent chest in such patients is an ominous sign. There are usually no abnormal physical signs between attacks except in patients with untreated chronic asthma who are seld on without expiratory rhonchi severe asthma persisting from childhood may cause ‘pigeon chest deformity’.

Gastric Asthma:

Worsening of asthma after meals or dyspnoea occurring only after meals is due to gastro esophagus.

Exercise induced Asthma:

Asthma is induced by exercise and inhaled broncho dilators should be given before exercise usual than with pre exercise bronchodilators was advised.

Investigations:

Blood:

An elevated peripheral blood eosinophil count or increased serum level of total or allergen specific IgE (radio allegro sorbent test – RASI) may be helpful.

Sputum:

Sputum shows eosinophils, charcot leydon Crystals, Curschmanns spirals and Laennec's pearls and creola's bodies apart from the infective agents.

Pulmonary function test:

Measurement of the forced expiratory volume in 1 second FEV_1 and vital capacity VC or peak expiratory flow PEF provides a fairly reliable indication of the degree of airflow obstruction, and can also be used to determine whether and to what extent it can be relieved by bronchodilator drugs. These parameter are also used to examine whether asthma is provoked by exercise, hyperventilation or occupational exposure.

Serial recordings of PEF are useful in distinguishing patients with chronic asthma from those with fixed or irreversible air flow obstruction associated with COPD. In Asthma there is usually a marked diurnal variation in PEF, the lowest values being recorded in the mornings. (morning dipping). Also they

are essential in monitoring response to treatment of severe acute asthma. Measurement of bronchial reactivity can be of value in diagnosing asthma and in assessing the effects of treatment.

Radiological Examination:

In an acute attack of asthma the lungs appear hyperinflated. Between the episodes the chest radiograph is usually normal.

In long standing chronic cases the appearances may be indistinguishable from hyperinflation caused by emphysema and lateral view may demonstrate a pigeon chest deformity. Occassionally, when a large bronchus is obstructed by tenacious mucous, there is an capacity caused by lobar or segmental collapse.

A chest radiograph should be performed in all patients with servere acute Asthma.

Arterial Blood Gas Analysis:

Measurement of arterial blood gas pressures (Pao2 and Paco2) are indispensable in the management of patients with severe acute asthma.

Skin Hypersensitivity Test:

A prick is made in the skin with a fine needle through a drop of an aqueous extract of the substance to be tested.

A positive reaction is indicated by the development of a wheel and flare which begin to appear within a few minutes.

Tests are usually performed with a group of common allergens known to cause bronchilal asthma. This test is mainly to distinguish atopic from non atopic subjects.

TREATMENT:-

The treatment in siddha medicine is aimed at keeping the three kutrams (Vali, Azhal, Iyam) in equilibrium and maintanance of the seven udal thathukal.

“K¥Ãâ kUé KåÎ bfhŸ F¿¥ig
j¥ghj¿Íª j‹ikÍ« thj
Ã¤jaita¥ Ãçitſ kitjh«
V¿æw§» ÏizªJ¡ fyªJ
kh¿kh¿ tU« bra‰ifah‰ Ãâ
ne®ika¿ªJ Ú£L kUªnj
Óçajh bkd¢ br¥òt® Á¤jnu”.

A good physician must have good knowledge about the patient the disease the duration of the disease and the season in which symptoms aggravate

“c‰whdsÎ« ÃâasÎ« fhyK§
f‰wh‹ fUÂ¢ braš” - ÂU¡FwŸ

In siddha science the treatment is not only for removal of the disease, but for the prevention and improving the body condition after the removal of the disease. This is classified as,

Neekam (Treatment)

Kaappu (Prevention)

Niraivu (Restoration of the well being)

Neekam:-

The aim of the treatment is

- To bring the affected thathus to normal level
- To treat the disease according to its symptoms by internal as well as external medicine

“_‹¿byh‹W a®ªjij K‹du¿ªJ

KªÂajid bkhê¤ÂL kUªÂL
jâÍ« nehæ‹ jªÂuäJnt
ngâ¡ fâ¤Âo‹ ÃwthŒ Ã‹ Fz«”

In Eraippu erumal for normalizing the deranged thathu, purgatives can be given as initial measure. It would bring the affected kutrams in equilibrium.

Internal Medicines:-

The internal medicines used to treat Eraippu Erumal is

1. Silethumathirku Choornam – 1gm 3 times daily
2. Buskharathy Kudineer – 30ml twice daily

KAAPPU (Prevention)

Prevention of disease can be possible by proper diet and following good habits

“khWghošyhj c©o kW¤J ©â‹
CWgh ošiy cæ®¡F”

Siddhars advised the diet restriction for Iya patients as follows :-

“f¤jç ngŒòlš tiu æUghfš gU§fsh f©lfhç
m¤Â¡ fhŒ¡F« tUifkh gæ‰iw fiuahš æ®¡fU« ÃŠRnt®
bkhŒ¤j Nuz§ fjè¤ j©Lfis¡ ó KŸs§» KU¡fU«ò«
m¤Â órâ¡ fhæUŸë tŸëÍ§ fg¤ njh®¡ fhdkhnk”

Siddhars advised to take much more greens and selected some greens especially for Iya patients.

“ntis kz¤j¡fhë bk‹Óij r¡ut®¤Â
Õis triy R¡F bt© Rz§fŸ – ntisæiy
brªjë® fis Ñiu brŒtß fg njf® ãj«
tªjâÍzªjh‹ k»œªJ. - gjh®¤j Fz Áªjhkâ

“kŠrŸ äsF R©il thiH¤ j©nlhLkh«
ÃŠrhy« ÃŠr¤Â¥ ÃŠRfS« - éŠRfg«

üW eW¡ öJzK behŒa ghf‰ ÃŠR
CWfhia njf®¡ nfhJ”.
“MédJ ghyu¤ij KŸs§» kæ‰
ùé eWŠrh«gš öJsªnj‹ - khnthkkŠ
JŒa r®¡fiu JHhŒ éij és«gHK
ikakij nah£L k¿”.

PREVENTIVE METHODS:-

(Do’s)

i) To take light meals in the evening atleast three hours before going to sleep.

ii) To take light and nutritive diet

iii) The workers should use face mask, when they are working in factories, cotton mills or at places where there is dust, vapours fumes etc.,

iv) It there is any attack of common cold, it should got be treated at once.

v) Deep breathing exercises should be followed.

vi) To make regular use of ginger juice with honey

(**Don’t’s)**

i) Fried, chilly, too cold, sour, heavy preparations if these do not suit

ii) Over eating and taking milk at bed time

iii) Fasting for a longer period

vi) Any thing that does not suit the individual patient

v) To sit in dusty, smoky and congested places for a longer periood

vi) To sleep at such places where the rooms are newly white washed or there is a wooden furniture or doors which are newly painted or varnished

vii) Cold places and damp places

viii) Excessive use of:-

Cold water, sexual indulgence, long journey on foot, dry food, astringent food, fasting and irregular directory habits.

ix) To come in to contact with those pet animals which don't suit the individual

x) To come outside of the room early in the morning or take bath with cold water

ASANAS:-

The following Asanas are found to be helpful in patients with respiratory illness

1. Sarvangasana
2. Bujangasana
3. Salabasana
4. Thanurasana
5. Vibrithakarani
6. Matchyasana
7. Yoganithrasana
8. Arthasacrasana
9. Usartasana

Pranayamam:-

The term pranayama is composed of prana (Life, Life force) and ayama (Extension) thus meaning the lengthening of breath, vital energy and even life itself.

Clean air is the finest medicine for the lungs the throat and all the air-passages and also for the body as a whole.

Pranyama or breathing exercise mainly consists of inhalation of air by deep inspiration (Pooragam) holding of breath as possible (Kumbagam) and exhalation of air by a deep expiration (Resagam)

- Pooragam – Increasing O_2 in the terminal bronchioles to acini
- Gumbhakam- Utilization of O_2 in to the lung paranchymel tissues
- Resakam – Increasing outlet of Co_2 from terminal bronchioles to main bronchus

By the regular practice of pranayama one can get a feeling of calmness in mind as a result of excess supply of oxygen to the brain cells. This practice also gives good appetite great strength , enthusiasm a high standard health.

During breathing exercise the lung get proper supply of oxygen by proper expansion of chests. This pranayamam is one of the preventive method for Eraippu Erumal.

"ãšy¥gh f©l§» é©bzh‹ ùâ
ãiya¿ªJ ÃuhzhahkŠ brŒjš ikªjh
fšy¥gh njfkJ fhy‹ VJ
fhybdD« éahÂbayh« fhzh njhL«.

- R¥Ãukâa® Phd«

"fiyehY ngh»wij v£o‰ nrU
fglk‰w njfklh f©L ghnu" - fhfòR©l®

NIRAIVU (Restoration)

- Nutritious food and supportive therapy should be given to improve their immunity
- All the patients are advised to live in good morality.

MATERIALS AND METHODS

The clinical study was carried out in the post graduate department of Maruthuvam Government Siddha Medical College attached to Arignar Anna Hospital Chennai during the period of (2007-08).

Selection of cases:

20 cases from both sex of varying age groups in the inpatients ward and 20 cases in the out patient department before admission all the cases were carefully examined for correct diagnosis and other co-existing systemic illness if any was ruled out.

20 patients were kept as inpatient and necessary investigation and treatment had given with daily followup. After a degree of palliation is achieved they were advised to come op department for further follow up. Another 20 patients were treated as out patient department separately with weekly follow up.

Criteria for Selection:

Patients with symptoms like difficulty in breathing, wheezing, cough with or without expectoration, tightness of chest, sweating, sneezing, symptoms are selected.

Criteria for exclusion:

i. Congestive Cardiac failure
ii. Pulmonary tuberculosis
iii. Chronic bronchitis
iv. Bronchiactasis
v. Bronchogenic Carcinoma

Evaluation of clinical parameters:

During treatment the patients were subjected to careful history taking. The history contained past, personal and family histories socio-economic status, diet habits and occupational history with description of exposure to chemicals, dusts and fumes etc.

Study of Siddha clinical Diagnosis

1. Mukkutram – Vali, Azhal, Iyam, Mukkutram
2. Udalkattukkal
3. Nilam – Places
4. Kaalam – Season
5. Envagai thervugal

The Clinical Investigations:

1. Complete Haemogram
   Blood : TC, DC, DSR, Hb
2. Biochemical Investigation
   Blood Sugar, Blood Urea, Creatinine
3. Sputum for AFB
4. Urine Analysis
   Albumin, Sugar, deposite
5. X-ray chest P.A.view
6. Pulmonary function test.

The siddha and modern diagnostic methods above are used to evaluate Eraippu Erumal.

Administration of trial medicines:

The trial medicines used in the present study are

1. Silethumathirku Choornam – 1 gm,
   Thrice a day with honey after food,
2. Bushkarathy Kudineer – 30 ml
   Twice a day before food.

PROPERTIES AND PREPARATION OF TRIAL DRUG

Drugs Name:

1. Silethumathirku Choornam – Theriyar vaidhya Kaviyam – 1500 Pg.No.67,68
2. Bushkarathy Kudineer – Anubava vaidhya deva Ragasiyam. Pg. No.473

f©l§f¤jç

“fhr Rthr§ fÂ¤j õa kªjkdš
ÅRRuŠ rªã éisnjhõ-khRw§fh
è¤jiuÍ â‰fh btçfhuŠ nr®f©l§
f¤jçÍ© lhkh»‰ fh©.

Botanical Name : Solanum Xanthocarpum

Part used : Wholeplant

Action : Expectorant, Diuretic

Suvai : Kaarppu

Thanmai : Veppam

Pirivu : Kaarppu

mÎç :

cçatÎç ç¤jiHjh ndhJ gÂbd‹
zça eŠir¤ Â‹wt®¡F khFª-bjçtça
thjbt¥ò fhkhiy ikªjh¡FWkhªjŠ
Ój kf‰Wª bjç.

Botantial Name : Indigofera tinctoria

Action : Stimulant, Antiperiodic

Part used : Leaves, Root,

Suvai : Kaippu

Thanmai : Veppam

Pirivu : Kaarppu

_§»Y¥ò:

Ã¤j¡if fhbyç¢rš ngRkÂ‰ whfRu«
bjh¤JŠ rafhrª bjhšèUkš F¤JYw
K‰¿a Ú®¡ f£il K¿¤JéL§ _§»yÂš
g‰¿a njh® c¥ÃdJ g©ò.

Botanical. Name : Bambusa arundinaceae

Part used : leaves, Root, Salt, Seeds.

Suvai : Thuvarppu

Pirivu : Kaarppu

Thanmai : Veppam

Action : Stimulant, Astringent, Tonic.

jhërg¤Âç

ehÁ fs¥Ãâf zh£g£l fhrŠR
thr kUÁ tkd§fhš – ÅÁtU
nkfkªj k¤ÂRu« é£nlFª jhër¤jh
yhFŠ Rf¥ Ãur t«.

Botanical Name : Taxus Buccata
Part used : Leaves
Suvai : Kaarppu
Pirivu : Kaarppu
Action : Expectorant, Tonic.
Thanmai : Veppam.

f©Lghu§»:

f©Lgh u§»baDŠ ÁWnj¡ F©nl‰
fhby§nf Ã¤jbk§nf fgªjh bd§nf
bjh©L bjh£L¤ bjhl®Rthr fhrbk§nf
Rubk§nf bt¿ba§nf bjhåneh ba§nf
ä©Lòç ÕãrÚ®¡ nfhit ba§nf
btŸ ÚU© Ùbu§nf éu‰fh by§nf
a©Lglh¢ ÓjRu§ fL¥ò bk§nf
aHiyaf nehba§nf aiwF Ånu

Bot Name : Clerodendron Serratum
Part used : Root, leaves
Suvai : Kaippu, Thuvarppu
Action : Stimulant, Seadative
Thanmai : Veppam

Pirivu : Kaarppu

nfhZl«

Â£ofÎ sfLfsŠ br‹å ehthŒ
br¿Ãâbt¥ gij¥òjh t®¤j _ij
K£obaU KiséuzŠ Rthf fhr
Kof¤njh luÎku él§f© nkf¡
f£oa# fšèél ghf« ój
fz«ghy »ufbkhL jhJ e£lŠ
brh£o tU ÃuäÃ¤j äit bahU§nf
bjhiyÍ«éu â¡f¢ Rf¥ ng whnk.

Botanical Name : Costus speciosus

Part used : Root

Pirivu : Kaarppu

Action : Expectorant, Stimulant, Tonic

Suvai : Kaippu

Thanmai : Veppam

R¡F

Niykªj beŠbrç¥ò njhõnk¥ g«kHiy
_y äiu¥ÃUkš _¡FÚ® - thyfg
njhõkÂ rhuª bjhl®thj F‹k Ú®¤
njhõkh k« ngh¡FŠ R¡F

Botantial Name : Zingiber Officinale

Part used : Rhizome

Action : Stimulant, Carminative

Suvai : Kaarppu

Thanmai : Veppam

Pirivu : Kaarppu

Â¥Ãè:

ÏUkš F‹k äiu¥ò fa¥Ãâ
<is gh©L rªãahr knuhrf«
bghUk yij Áu¥Ãâ _®¢ir nehŒ
óç¡FŠry njhõ« Õ èfK«
tUk y¥ bgU¡ nfhL knfhju«
thj khÂK¤ njhõŠ Ru§Fë®
bgUkiy¥òç nkf¥ ÃlfK«
ngUª Â¥Ãè§ ngç§ Fiu¡fnt

Botantial Name : Piper Longum
Part used : Dried Fruit
Action : Stimulant
Suvai : Inippu
Thanmai : Thatpam, Veppam.
Pirivu : Inippu

ÏŠÁ

ÏŠÁ ajD¡ »Ukiya nkh¡fhs«
tŠÁ¡FŠ rªãRu« t‹ngÂ – éŠR»‹w
NiyaW« thj«nghª ö©lhj Ôgdkh«
ntiyÍW§ f©nzhŒ és«ò

Botantical Name : Zingiber officinale
Part used : Rhizome
Suvai : Kaarppu
Thanmai : Veppam
Pirivu : Kaarppu

Action : Stimulant, Diagestive

I. **Ány¤Jk¤Â‰F¢ Nuz«**

“nghF ika« bghUäna nahLj‰
fhF§ f©l§f¤jç r_yK«
thF Úè tiuÍª jhërK«
jhF Nuzª jathf¢ brŒÂnl,
brŒJ njåš Áw¡f tUªÂL
vŒJ Ûis rafg nuhf« ngh«
itJ r‹å tYthd ñZlz«
cŒJ nuhf Kliyé£ nlhLnk”

INGREDIENTS OF DRUGS

1. f©l§f¤jç - 35 »uh«
2. mÎç - 35 »uh«
3. _§»Y¥ò - 35 »uh«
4. jhërg¤Âç - 35 »uh«

METHOD OF PREPARATION:

The above four drugs are taken in equal quantity, then powdered and given to the patient in the powder form.

DOSAGE AND ADMINISTRATION:

1 gm thrice a day with honey.

II. **BUSHKARATHY KUDINEER:**

INGREDIENTS OF DRUGS:

òZfu_y« (nfhZl«) – 35 »uh«

ÏŠÁ - 35 »uh«

f©Lghu§» - 35 »uh«

R¡F - 35 »uh«

Â¥Ãè - 35 »uh«

METHOD OF PREPARATION:

Equal part of all above drugs with 8 times measure of water and steamed to boiling to form decation in a ratio of 1/8 for use.

Dosage and Administration:

30ml twice a day.

CLINICAL ANALYSIS OF HERBAL PREPARATION

Preparation of Extract:

5 gm of I.Silethumathirku choornam, and II Bushkarathy kudineer Choornam is weighted accurately and placed in a 250 ml clean beaker and added with 50ml of distilled water. Then it is boiled well for about 10 minutes. Then it is cooled and filtered in a 100ml volumetric flask and made up to 100 ml with distilled water.

Sl.No.	Experiment	Observation	Inference	
1.	**I. Test for Acid Rdicals**			
	1. Test for Sulphate		Drug I	Drug II
a)	2 ml of the above prepared extract is taken in a test tube. To this add 2 ml of 4% Ammonium oxalate solution.	White precipitate	Presence of sulphate	Presence of sulphate
b)	2 ml of sodium carbonate extract is added with 2 ml of dilute Hydrochloric acid is until the effervescence ceases off. Then 2 ml of Barium chloride solution is added.	White precipitabe	Absent	Absent
2	**Test for Chloride:** 2ml of Sodium carbonate extract is			

	added with dilute Nitric acid till the effervescence ceases. Then 2 ml of silver Nitrate solution is added.	White Precipitate	Presence of Chloride	Presence of chloride
3.	**Test for Phosphate:** 2 ml of the extract is treated with 2ml of Ammonium Molybdate solution and 2 ml of concentrated Nitric acid.	Yellow Precipitate	Absent	Absent
4.	**Test for carbonates:** 2 ml of the extract is treated with 2ml of Magenisum sulphate solution.	White Precitipate	Presence of Carbonate	Presence of Carbonate
5.	**Test for Sulphide:** 1 gm of the substance is treated with 2 ml of concentrated Hydrocholric acid	Rotten Egg smell	Absent	Absent

6.	**Test for Nitrate;** 1 gm of the substance is heated with copper turnings and concentrated sulphuric acid and viewed the test tube vertically down.	Copius evolution of reddish brown gas	Absent	Absent
7. a)	**Test for Fluoride and Oxalate:** 2 ml of the extract is added with 2 ml of dilute Acetic acid and 2 ml of calcium chloride solution and heated.	White Precitipate	Absent	Absent
b)	5 drops of clear solution is added with 2 ml of dilute sulphuric acid and slightly warmed. To this, 1 ml of dilute Potassium permanganate solution is added.	White Participate	Presence of Oxalate	Presence of Oxalate
8.	**Test for Nitrite:** 3 drops of the extract is placed on a filter paper. On that, 2 drops of Acetic acid and 2 drops of Benzidine solution is placed.	Yellowish red colour	Absent	Absent
9.	**Test for Borate:** 2 pinches of the substance is made in to paste by using sulphuric acid and Alcohol (95%) and introduced in to the blue flame.	Green finged flame	Absent	Absent
10.	**Test for Basic Radicals**			
a.	**Test for Lead:** 2 ml of the extrct is added with 2 ml of Potassium Iodidc solution.	Yellow Participate	Absent	Absent
11. a.	**Test for Copper** One pinch of substance is made in to paste with concentrated Hydrocholric acid in a watch glass and introduced in to the nonluminous part of the flame.	Blue Participitate	Absent	Absent
b.	2 ml of the extract is added with excess of Ammoia solution.	Blue colour	Absent	Absent
12.	**Test for Aluminium:** To the 2 ml of extract, soldium hydroxide solution is added in drops to excess.	White Participate	Absent	Absent

13. a.	**Test for Iron:** To the 2 ml of extract, 2 ml of Ammonium thiocyanate solution is added.	Blood red colour	Presence of Iron	Presence of Iron
b.	To the 2 ml of extract (+1-2) 2 ml of Ammonium thiocyanate solution and 2 ml of concerntrated Nitric acid added.	Blood red colour	Presence of Iron	Presence of Iron
14.	**Test for Zine:** To the 2 ml of extract sodium hydroxide solution in added in drops to excess.	White Participate	Absent	Absent
15.	**Test for calcium:** 2 ml of the extract is added with 2 ml of 4 % Ammonium Oxalate solution.	White Precipitate	Presence of Calcium	Presence of Calsium
16.	**Test for Magnesium:** To 2 ml of extract, sodium hydroxide solution is added in drops to excess.	White Precipitate	Absent	Absent
17.	**Test for Ammonium:** To 2 ml of extract few ml of Nessler's reagent and excess of sodium hydroxide solution are added.	Reddisah Brown colour Precipitate	Absent	Absent
18.	**Test for Potassium:** A pinch of substance is treted with 2 ml of sodim nitrate solution and then treated with 2 ml of cobalnitrate in 30% glacial Acetic acid.	Yellow Precipitate	Presence of Pottassium	Absent
19.	**Test for Sodium:** 2 pinches of the substance is made in to paste by using Hydrocholoric acid and introduced in to the blue flame.	Yellow colour flame	Absent	Absent
20.	**Test for Mercury:** 2 ml of the extract is treated with 2 ml of sodium hydroxide solution.	Yellowish Precipitate	Absent	Absent
21.	**Test for Arsenic:** 2 ml of extract is treated with 2 ml of Silver nitrate solution.	Yellowish Precipitate	Presence of Arsenic	Absent

III.	**Miscellenious:**			
22.	**Test for Starch:** 2 ml of extract is treated with weak Iodine solution.	Blue colour or Violet	Presence of Starch	Presence of Starch
23.	**Test for reducing sugar:** 5 ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and added 8 to 10 drops of the extract and again boiled for 2 minutes. The colour changes are noted.	Dark Green colour	Absent	Presence
24. a.	**Test for alkaloids:** 2 ml of the extract is treated with 2 ml of Potassium iodide solution.	Red colour	Presence of alkaloids	Presence of alkaloids
b.	2 ml of extract is treated with 2 ml of picric acid	Yellow colour	Presence of alkaloids	Presence of alkaloids
25.	**Test for Tannic acid:** 2 ml of the extract is treated with 2 ml of Ferric chloride solution.	Blue Precipitate	Presence of Tannic acid	Presence of Tannic acid
26.	**Test for unsaturated compound:** T'o 2 ml of the extract 2 ml of Pottassium permanganate solution is added.	Brown Precipitate	Absent	Absent
27.	**Test for Aminoacid:** 2 drops of the extract is placed on a filter paper and dried well. After drying 1% Ninhydrine is sprayed over the same and dried well.	Violet colour	Presence of Aminoacid	Presence of Aminoacid
28.	**Test for Albumin:** 2 ml of the extract is added with 2 ml of Esboch's reagent.	Yellow colour Precipitate	Absent	Absent
29.	**Test for Type of Compound:** 2 ml of the extrct is treated with 3 ml of Ferric chloride solution.	Green Precipitate	Absent	Absent

RESULTS:

The given sample contains:

ACID RADICALS:

Sulphate
Chloride
Carbonate
Oxalate

BASIC RADICALS

Iron
Calcium
Arsenic

MISCELLANEOUS:

Starch
Reducing Sugar
Allkaloids
Tannic acid

ACUTE TOXICITY STUDY

TOXICOLOGICAL EVALUATION FOR SILETHUMATHIRKU CHOORNAM AND BUSHKRATHY KUDINEER POWDER

Acute oral toxicity study (Ecobichnon, 1997)

The procedure was followed by using OECD guidelines (Organization of Economic Cooperation and Development) 423 (Acute Toxic Class Method). The acute toxic class method is a stepwise procedure with 3 small animals of a single sex per step. Depending on the mortality and / or morbidity status of the animals, on the average 2-4 steps may be necessary to allow judgement on the acute toxicity of the test substance. This procedure results in the use of a minimal number of animals while allowing for acceptable data based scientific conclusion. The method, uses, defined doses (5, 50, 300, 2000 mg/kg body weight) and the results allow a substance to be ranked and classified according to the Globally Harmonized System (GHS) for the classification of chemicals which acute toxicity.

Experimental procedure

Female wistar rats weighing 150 – 200 gm were used for the study. The starting dose level of *Silethumathiruku Choornam* and *Bushkarathy Kudineer Choornam* was 2000 mg/kg body weight per oral (P.O). As most of the crude drugs posses LD_{50} value more than 2000 mg/kg per oral. The starting dose used was 2000 mg/kg p.o. Dose volume was administered 0.1 ml/10 gm body weight to the rat which were fasted night over with water *ad libitum*. Food was withheld for a further 3-4 hours after administration and observed for signs of toxicity. Body weight of the rats before and after termination were noted and any changes in skin

and fur, eyes and mucous membrane and also respiratory, circulatory, autonomic and central nervous systems and somatomotor activity and behaviour pattern were observed and also signs of tremors, convulsion, salivation, diarrhoea, lethargy, sleep and coma were noted. The onset of toxicity and signs of toxicity also noted.

RESULT

The trial drug *Silethumathiruku Choornam* and *Bushkarathy Kudineer Choornam* did not exhibit any significant toxicity at 2000 mg/kg body weight. So the drug is safe for long term administration.

Ecobichnon DJ. The basis of Toxicity testing (CRC Press, 2nd edition. New York – 1997 Page No: 43.

Effect of siddha formulations S*ilethumathirku Choornam & Bushkarathy Kudineer* on Histamine induced bronchospam in Guinea pigs

The effect of siddha herbal formulations *Silethumathirku Choornam & Bushkarathy Kudineer* on histamine induced bronchospasm was studied in guinea pigs. Guinea pigs of either sex (400-600gm) were housed under uniform environmental conditions. They were divided in to two groups of six animals each and the following regimen of treatment was follows:

Group I : Animals received 155 mg / kg.p.o. of *Silethumathirku Choornam* and *Bushkarathy Kudineer* 2.3 ml/ kg.suspended with 1% SCMC (sodium carboxy methyl cellulose) administred daily for seven days.

Group II : Animals received 2 mg/kg. p.o of standard drug Chlorphenaramine malate, suspended with 1% SCMC (sodium carboxy methyl cellulose) administered daily for seven days.

Procedure:

Prior to drug treatments, the animals were placed in the histamine chamber and exposed in micro aerosol of histamine acid phosphate (1% w/v) using a nebulizer under constant pressure of 40 mm/Hg. The animals exposed to the asthmatic agents showed progressive dyspnoea. The end point pre-convulsive dyspnoea (PCD) was determined from the time of aerosol exposure to the onset of dyspnoea leading to the appearance of the convulsion. As soon as PCD was noted, the animals were removed from the chamber and placed in fresh air. 0-day values PCD was taken before treatment. The animals were administered with the formulations and drugs as describe above. On seventh day two hours after the last dose, the time for the onset of PCD was recorded

as on day 0. The animals with stood exposure to histamine aerosols for 10 mins were considered to be completely protected.

The protection offered by the treatment was calculated by the following formulate.

Percentage Protection = $[1-T_1/T_2] \times 100$

Where,

T_1 is time for PCD onset on day 0.

T_2 is time of PCD onset on day 7.

Groups	Time of Pre-conclusive dyspnoea (sec)		Percentage Protection
	Before Treatment	After Teatment	
Group I	118.0 ± 5.50	340.5 ± 40.98	65.34
Group II	128.0 ± 5.07	453.4 ± 29.30	71.76

Values are mean ± SEM of six animals in each group

* P< 0.05 after treatment compared with before treatment.

Result:

Administration of *Silethumathiruku Choornam* (155 mg/kg) and *Bushkarathy Kudineer* 2.3 ml/kg received animals exhibited significant (P< 0.05) antihistaminic activity when compare with the before drug treated animals. The standard drug chlorphenaramine malate also exhibited significant (P< 0.05) antihistaminic activity.

CASE SHEET PROFORMA

IP CASE SHEET PROFORMA FOR ERAIPPU ERUMAL
GOVT. SIDDHA MEDICAL COLLEGE & HOSPITAL
POST GRADUATE DEPARTMENT, BRANCH – I
MARUTHUVAM POTHU
CHENNAI – 600 106

IP No.	:	Occupation	:
Ward No	:	Income	:
Bed No.	:	Nationality	:
Name	:	Religion	:
Age	:	Date of Admission	:
Sex	:	Date of Discharge	:
Address	:	Total No of days treated	:
		Results	:
		Diagnosis	:

Education

Medical Officers Signature

1. COMPLAINTS AND DURATION :
2. H/O PRESENT ILLNESS :
3. H/O PREVIOUS ILLNESS :
4. PERSONAL HISTORY INCLUDING HABITS :
5. FAMILY HISTORY :
6. OBSTETRIC HISTORY :

GENERAL EXAMINATION:

1. Consiousness
2. Nutrition
3. Decubitus
4. Anaemia
5. Jaundice
6. Cyanosis
7. Clubbing
8. JVP
9. Oedema
10. Generalised Lymphadenopathy
11. Pulse Rate
12. Heart Rate
13. Respiratory Rate
14. Temperature
15. Blood Pressure

SIDDHA ASPECT

NILAM (Places)

1. Kurinchi (Hilly area)
2. Mullai (Forest area)
3. Marutham (Fertile area)
4. Neithal (Coastal area)
5. Palai (Arid Area)

PARUVA KAALAM (Seasons)

1. Kaar Kaalam (Aavani – Purattasi) – (Aug – Oct)
2. Koothir Kaalam (Iyppasi – Karthigai) – (Oct – Dec)

3. Munpani Kaalam (Maargzhi – Thai) – (Dec – Feb)
4. Pinpani Kaalam (Maasi – Panguni) – (Feb- Apr)
5. Elavenil Kaalam (Chithirai – Vaigasi) – (Apr – June)
6. Muthuvenil Kaalam (Aani – Aadi) – (June – Aug)

YAKKAI (UDAL NILAI)

1. Vatham
2. Pitham
3. Kapham
4. Kalappu

MUKKUNAM

1. Sathuva Gunam
2. Raasatha Gunam
3. Thamatha Gunam

IYMPORI / PULANGAL (Sensory organs)

1. Mei / Sensation
2. Vaai / Taste
3. Kan / Vision
4. Mooku / Smell
5. Sevi / Hearing

KANMENTHIRIYAM / KANMA VIDAYAM:

1. Kai - Koduththal
2. Kaal – Nadaththal
3. Vaai – Pesal
4. Eruvai – Kazhiththal
5. Karuvaai – Ananthithal

MUMMALAM:

Malam

Moothiram

Viyarvai

KOSAM

1. Annamaya Kosam (Paruudambu) (Yelu udal thathukkal)
2. Pranamaya Kosam (Valiudambu) (Pranan+ Kanmenthiriyam)
3. Manomaya Kosam (Mana Udambu) (Manam + Gnanenthiriyam)
4. Vingnanamaya Kosam (Arivudambu) Puththi + Gnanenthiriyam)
5. Ananthamaya Kosam (Inba Udambu) (Pranan+ Suzhuthi)

PIRA URUPPUKALIN NILAI:

Iruthayam

Puppusam

Eraippai

Kalleeral

Manneeral

Siruneeragam

Siruneerpai

Moolai

Karuppai

UYIR THATHUKKAL:

VALI (or) VATHAM:

Pranan

Abanan

Viyanan

Uthanan

Samanan

Nagan

Koorman

Kirukaran

Devathathan

Thananjeyan

AZHAL (or) PITHAM

Analagam

Ranjagam

Saathagam

Aalosagam

Prasagam

IYAM (or) KAPHAM:

Avalambagam

Kilethagam

Pothagam

Tharpagam

Santhigam

UDAL THATHUKKAL:

Saaram

Senneer

Oon

Kozhuppu

Enbu

Moolai

Sukkilam / Suronitham

ENVAGAI THERVUGAL

Naa

Niram

Mozhi

Vizhi

Sparisam

MALAM

Niram

Edai

Erugal

Elagal

MOOTHIRAM

I. Neerkuri

Niram

Manam

Edai

Nurai

Enjal

II. Neikuri

Vatha neer

Pitha Neer

Kapha neer

Thonthaneer

NAADI

EXAMINATION OF RESPIRATORY SYSTEM:

CARDINAL SYMTOMS:

Cough

Sputum

Breathlessness

Chest Pain

Haemoptysis

Wheeze

Fever

UPPER RESPIRATORY EXAMINATION

LOWER RESPIRATORY TRACT EXAMINATION

INSPECTION:

Shape of the Chest

Movement of the Chest

Mediastinum

Miscellaneous	Intercostal Bulging Surgery Dilated Veins

PALPATION	**Ins.Findings (confirmed)**	**Intercostal Tender** **Vocal fremitus.**

PERCUSSION

Supra Clavicular

Clavicular

Infraclavicular

Mammary

Axillary

Infra Axillary

Suprascapular

Interscapular

Infra scapular

Liver Dullness

Cardiac dullness

AUSCULTATION

Breath Sounds	**Right**	**Left**
Supra clavicular		
Infra Calvicular		
Mammary		

<u>Axillary</u>

Infra Axillary

Supra scapular

Inter Scapular

Infra Scrapular

BREATH SOUND

VOCAL RESONANCE

ADDED SOUND

Rhonchi

Rales

OTHER SYSTEMS

CARDIO VASCULAR SYSTEM

GASTRO INTESTINAL SYSTEM

CENTRAL NERVOUS SYSTEM

GENITO URINARY SYSTEM

LAB INVESTIGATIONS:

1. Blood

a. T.C.

b. D.C.

C. E.S.R.

d. H.B

e. Blood Sugar (fasting /PP/R)

f. Blood urea

g. Serum Cholesterol

h. Absolute Eosinophil count

i. Sputum for AFB

2. Urine

a. Albumin

b. Sugar

c. Deposits

3. Motion

a. Ova

b. Cyst

4. X-Ray

Chest PA view

5. PFT

CASE SUMMARY

FINAL DIAGNOSIS

MEDICINES

i) Silethumathirku Choornam - 1 gm 3 times a day with honey after food.

ii) Bushkarathy Kudineer – 30ml twice a day before food.

MEDICAL ADVICE:

RECORDING OF PROGRESS

S.No.	Clinical Features	Before Treatment	During Treatment	After Treatment
1.	Dysponea			
2.	Cough			
3.	Expectoration			
4.	Rhinitis			
5.	Sneezing			
6.	Wheezing			
7.	Chest Pain			
8.	Sweating			
9.	Irritation and watering of the eyes			
10	Voice Changes			
11.	X-Ray Chest PA view			
12.	Pulmonary function Test			

+++ Severe
++ Moderate
+ Mild
- Nil

DISCHARGE CASE SHEET
PROFORMA FOR ERAIPPU ERUMAL
GOVT. SIDDHA MEDICAL COLLEGE & HOSPITAL
POST GRADUATE DEPARTMENT, BRANCH – I,
MARUTHUVAM POTHU, CHENNAI – 600 106.

IP No.	:	Occupation	:
Ward No	:	Income	:
Bed No.	:	Nationality	:
Name	:	Religion	:
Age	:	Date of Admission	:
Sex	:	Date of Discharge	:
Address	:	Diagnosis	:
Education	:		

Medical Officer Signature

Clinical Features:

S.No.	Clinical Features	During Admission	During Discharge
1.	Dysponea		
2.	Cough		
3.	Expectoration		
4.	Rhinities		
5.	Sneezing		
6.	Wheezing		
7.	Chest pain		
8.	Sweating		
9.	Irritation and watering of the eyes		
10.	Voice changes		

+++	Severe
++	Moderate
+	Mild
-	Nil

OBSERVATIONS AND RESULTS

A Total No. of 40 cases were selected for the present clinical study out of them, 20 cases were out patient and 20 cases inpatients. The inpatients were treated at Post Graduate Maruthuvam Department during the period 2007-2008 in G.S.M.C. Hospital, Chennai – 106.

Trail durgs were given to the patients and observation were made during the course of study with regard to the following features.

1. Sex distribution
2. Age distribution
3. Socio-economic status
4. Occupational references
5. Personal habits and diet reference
6. Family history reference
7. Distribution of Thinai
8. Kaalam
9. Paruvakaalam
10. Reference to Mukkutram
    - Affected Vali
    - Affected Azhal
    - Affeced Iyam
11. Pori Pulangal reference
12. Ezhu Udal Kattugal
13. Envagai Thervugal
14. Neikuri findings
15. Signs and symptoms during admission
16. Result of treatment

SEX DISTRIBUTION

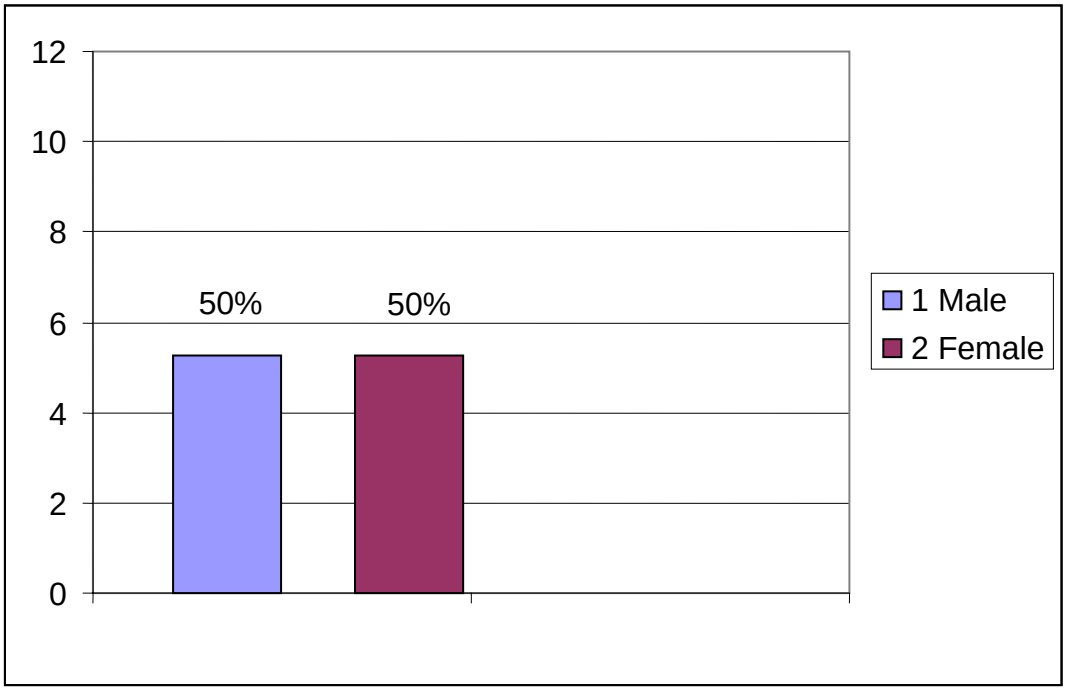
For this clinical study 20 patients were studied out of these 20, 10 patients were males and 10 patients were females.

Table No.1

Sex distribution

S.No.	Sex	No. of cases	Percentage
1.	Male	10	50 %
2.	Female	10	50 %

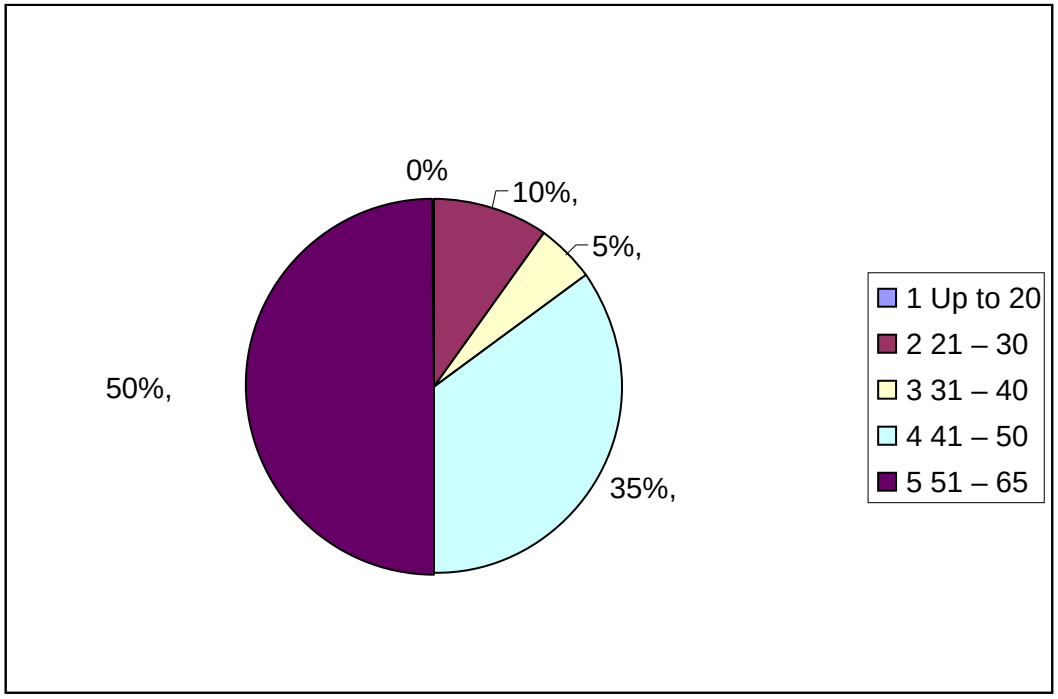
SEX DISTRIBUTION PERCENTAGE



AGE DISTRIBUTION

S.No.	Age Groups	No. of cases	Percentage
1.	Up to 20	0	0
2.	21 – 30	2	10 %
3.	31 – 40	1	5 %
4.	41 – 50	7	35 %
5.	51 – 65	10	50 %

AGE DISTRIBUTION PERCENTAGE

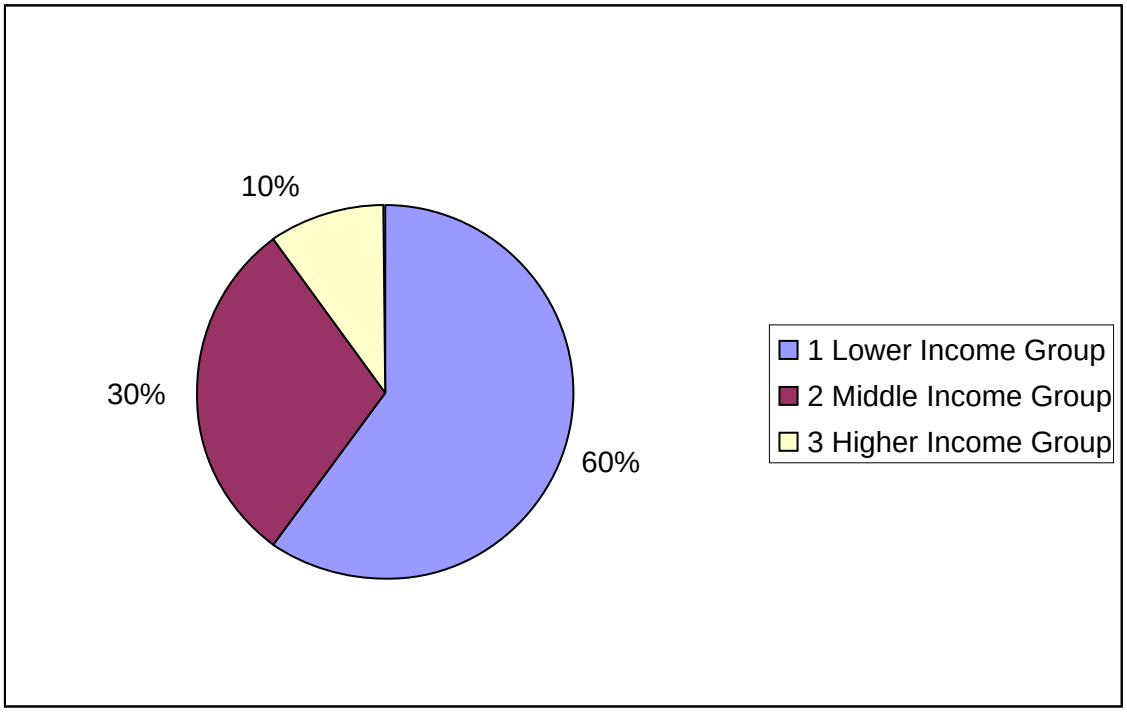


From the incidence of the cases 50% of cases come under the age group 51 – 65 years 35% of the cases individually were in the age group of 41 – 50 yers. 10% of cases come under the age group 21-30 and remaining 5% of cases was observed in the age group 31-40.

Socio – Economic Status

S.No.	Socio – Economic Status	No. of cases	Percentage
1.	Lower Income Group	12	60 %
2.	Middle Income Group	6	30 %
3.	Higher Income Group	2	10 %

SOCIO – ECONOMIC STATUS PERCENTAGE

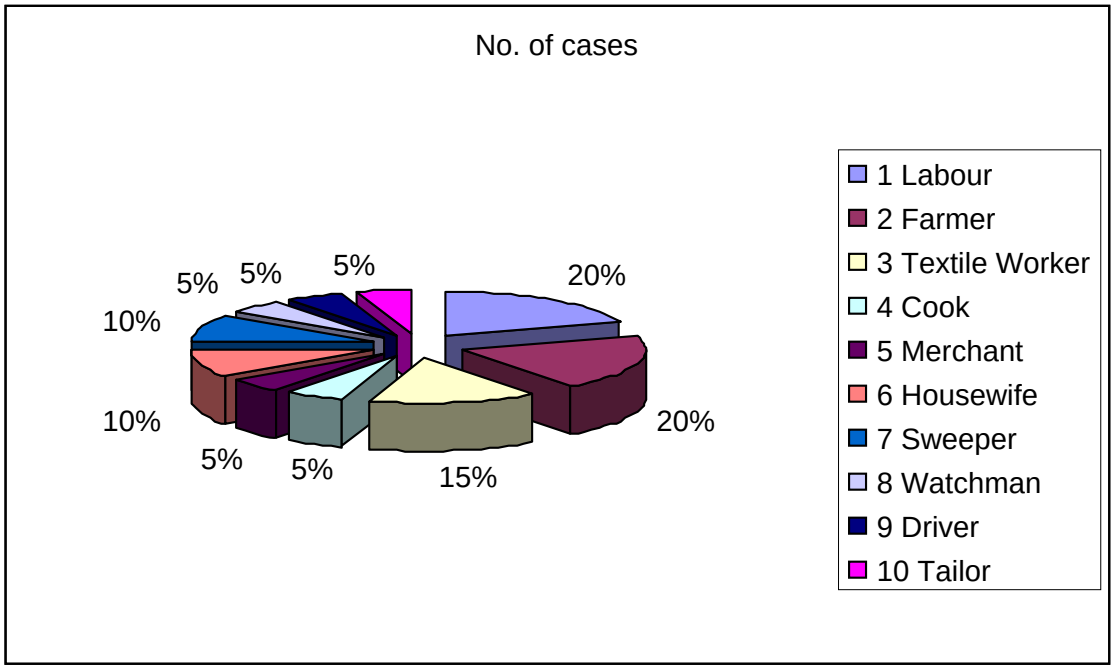


Out of the cases selected for study, 60% of the cases are LIG and 30% of the cases MIG, 10% of the cases HIG.

OCCUPATIONAL REFERENCES

S.No.	Occupation	No. of cases	Percentage
1.	Labour	4	20 %
2.	Farmer	4	20 %
3.	Textile Worker	3	15 %
4.	Cook	1	5 %
5.	Merchant	1	5%
6.	Housewife	2	10 %
7.	Sweeper	2	10 %
8.	Watchman	1	5 %
9.	Driver	1	5 %
10.	Tailor	1	5 %

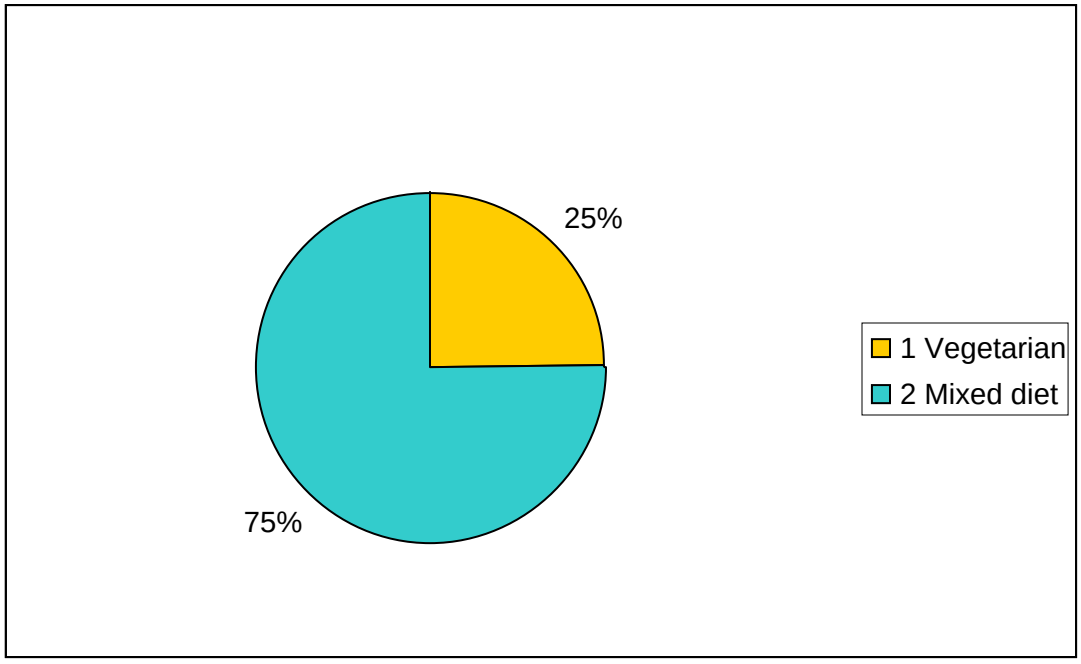
OCCUPATIONAL REFERENCES PERCENTAGE



Food Habits

S.No.	Food habits	No. of cases	Percentage
1.	Vegetarian	5	25 %
2.	Mixed diet	15	75 %

FOOD HABITS PERCENTAGE

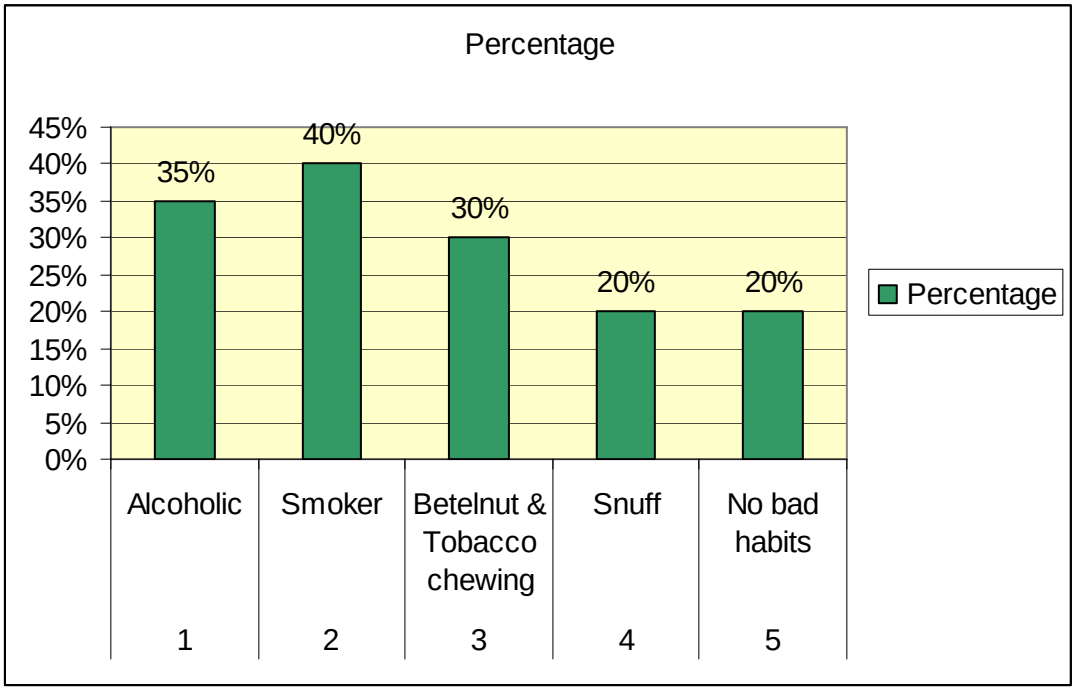


75% of the cases are mixed diet and remaining 25% of cases are Vegetarian

Personal Habits

S.No.	Habits	No. of cases	Percentage
1.	Alcoholic	7	35 %
2.	Smoker	8	40 %
3.	Betelnut & Tobacco chewing	6	30 %
4.	Snuff	4	20 %
5.	No bad habits	4	20 %

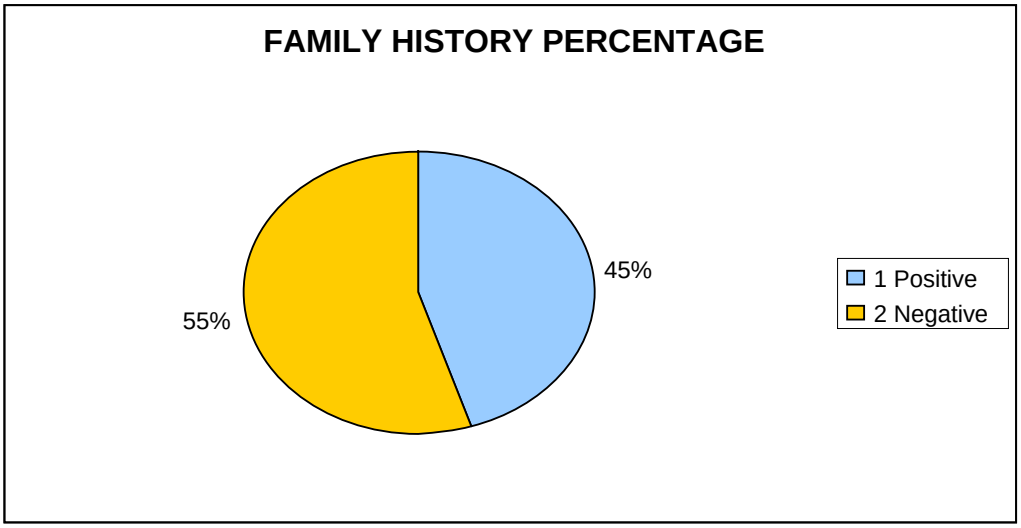
PERSONAL HABITS PERCENTAGE



From the incidence of the cases 40 % of cases were smokers, 35 % cases were alcoholics.

Family Hisotry:

S.No.	Family Hisotry	No. of cases	Percentage
1.	Positive	9	45 %
2.	Negative	11	55 %

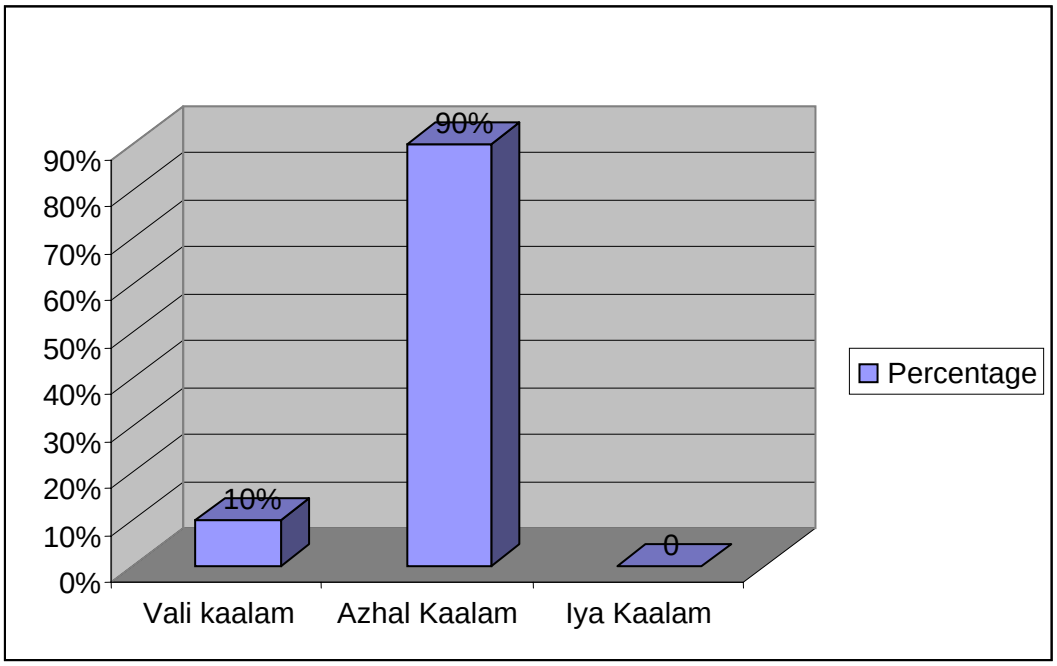


60% of cases have positive family history out of 20 cases selected for the study.

Kaalam:

S.No.	Kaalam	No. of cases	Percentage
1.	Vali kaalam	2	10 %
2.	Azhal Kaalam	18	90 %
3.	Iya Kaalam	-	-

KAALAM PERCENTAGE

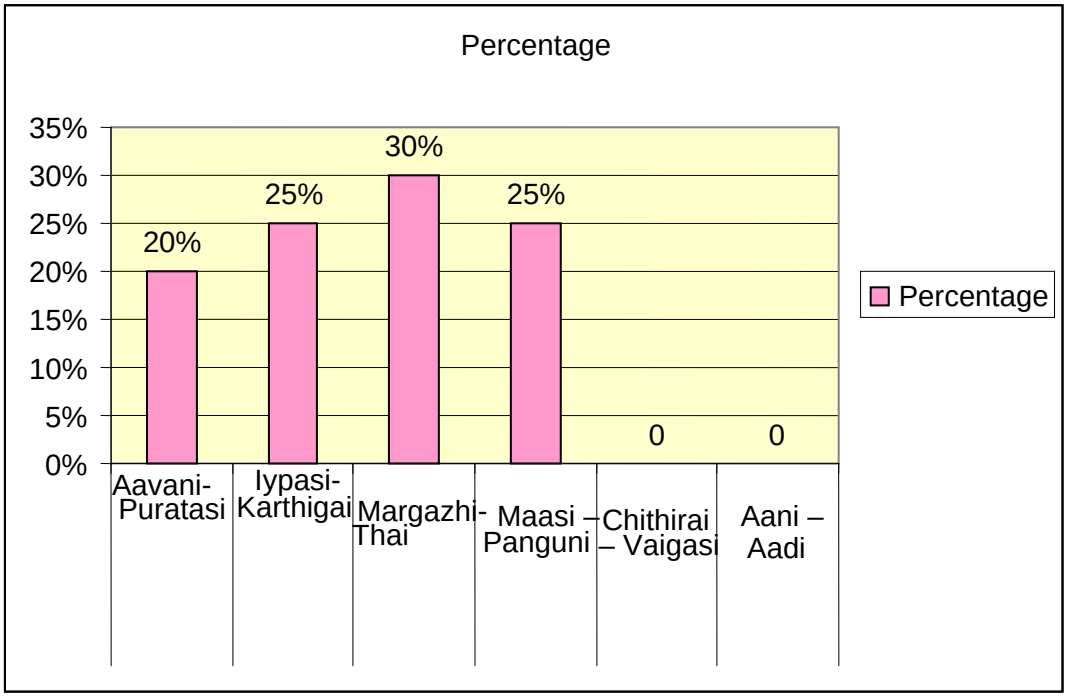


out of 20 cases 18 cases belong to Azhal Kaalam, 2 cases belong to vali Kaalam.

Paruvakaalam (Seasonal incidence)

S.No.	Paruvakaalam	Months	No.of cases	Percentage
1.	Kaarkalam	Aavani-Puratasi	4	20 %
2.	Koothirkalam	Iypasi-Karthigai	5	25 %
3.	Munpanikalam	Margazhi-Thai	6	30%
4.	Pinpanikalam	Maasi – Panguni	5	25 %
5.	Elavenilkalam	Chithirai – Vaigasi	-	-
6.	Muthuvenilkalam	Aani – Aadi	-	-

PARUVA KAALAM PERCENTAGE

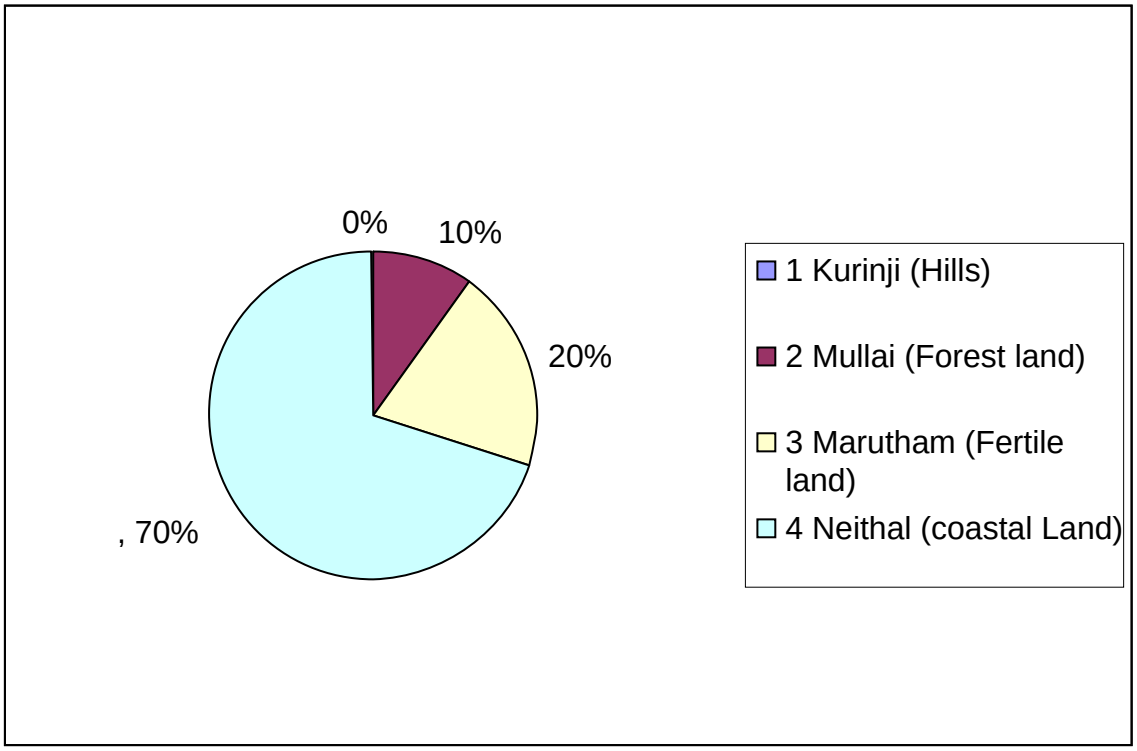


From the study 30% of cases belong to Munpani Kalam and 25% of cases belong to Koothirkaalam and 25% of cases belong to Pinpanikaalam and 20% of cases belong to Kaarkaalam.

THINAI

S.No.	Land	No. of cases	Percentage
1.	Kurinji (Hills)	0	0%
2.	Mullai (Forest land)	2	10 %
3.	Marutham (Fertile land)	4	20 %
4.	Neithal (coastal Land)	14	70%
5.	Palai (Desert) Arid Area	-	-

THINAI PERCENTAGE

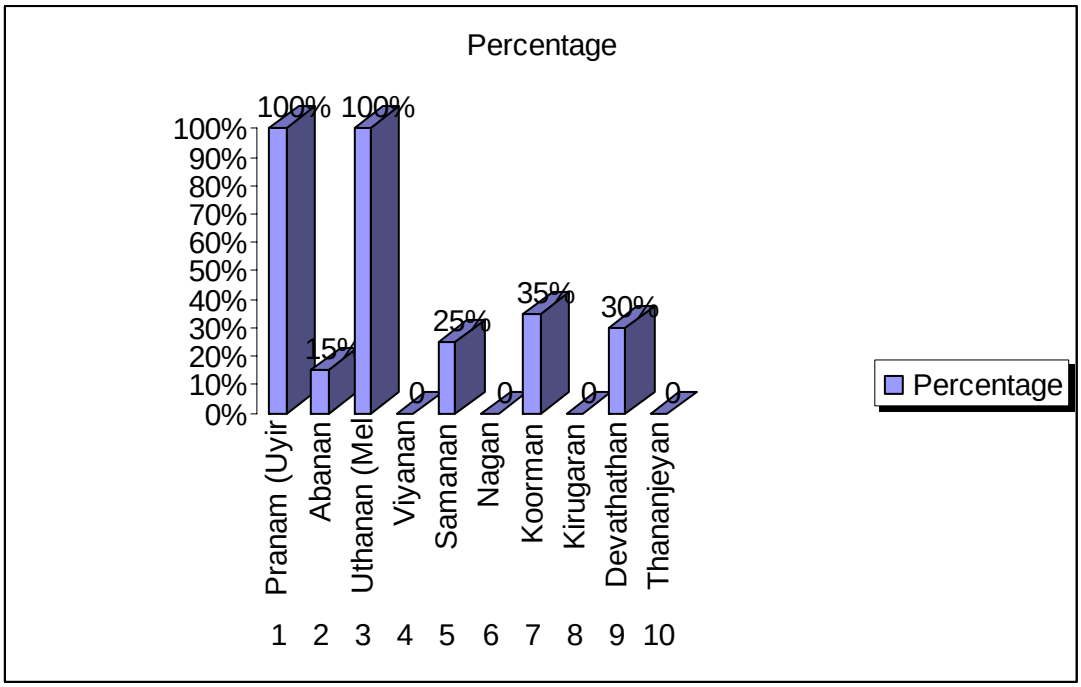


From the inference, 70 % of cases belong to Neithal Nilam, 20% belong to Marutham and 10% belong to Mullai Nilam.

AFFECTED VALI.

S.No.	Types of Vali	No.of cases	Percentage
1.	Pranan (Uyir Kaal)	20	100 %
2.	Abanan (Keezhnokku kaal)	3	15 %
3.	Uthanan (Mel Nokku Kaal)	20	100 %
4.	Viyanan (Paruvakaal)	0	0
5.	Samanan (Nadu Kaal)	5	25%
6.	Nagan	0	0
7.	Koorman	7	35 %
8.	Kirugaran	0	0
9.	Devathathan	6	30 %
10.	Thananjeyan	0	0

AFFECTED VALI PERCENTAGE

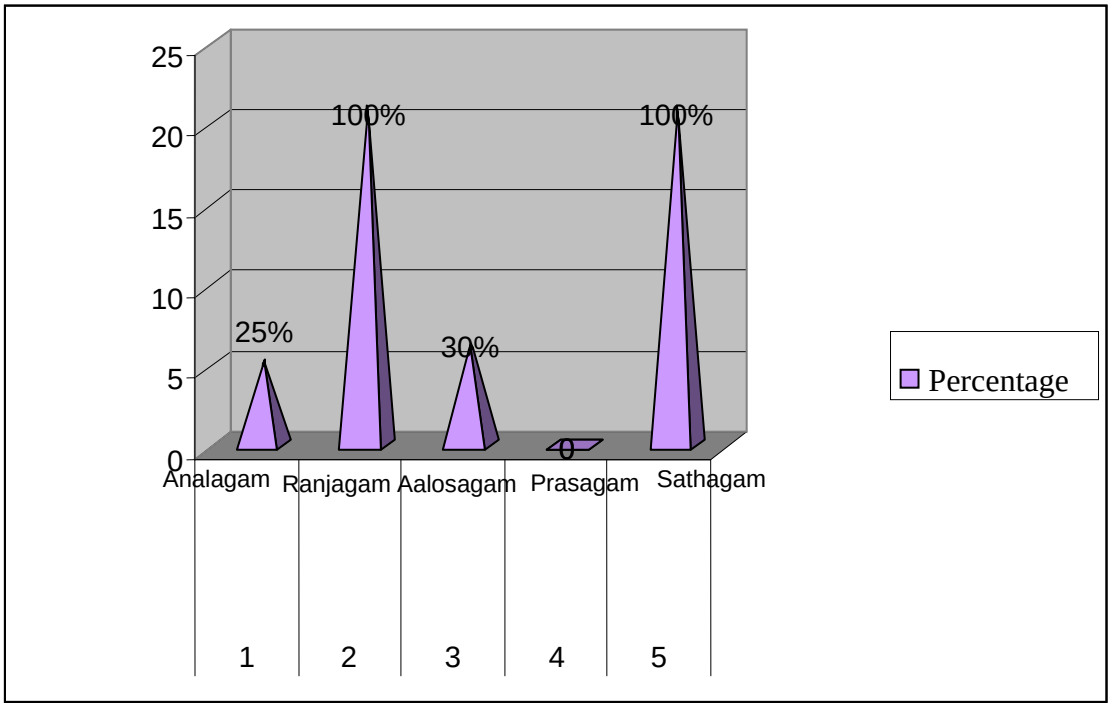


In this study100% of cases had affected pranan and uthanan, 35% of cases had affected Koorman, 30% of cases had affected Devathathan, 25% of cases had affected Samanan, 15% of cases had affected Abanan.

AFFECTED AZHAL

S.No.	Types of Azhal	No. of cases	Percentage
1.	Analam	5	25 %
2.	Ranjagam	20	100 %
3.	Aalosagam	6	30 %
4.	Prasagam	0	0
5.	Sathagam	20	100 %

AFFECTED AZHAL PERCENTAGE

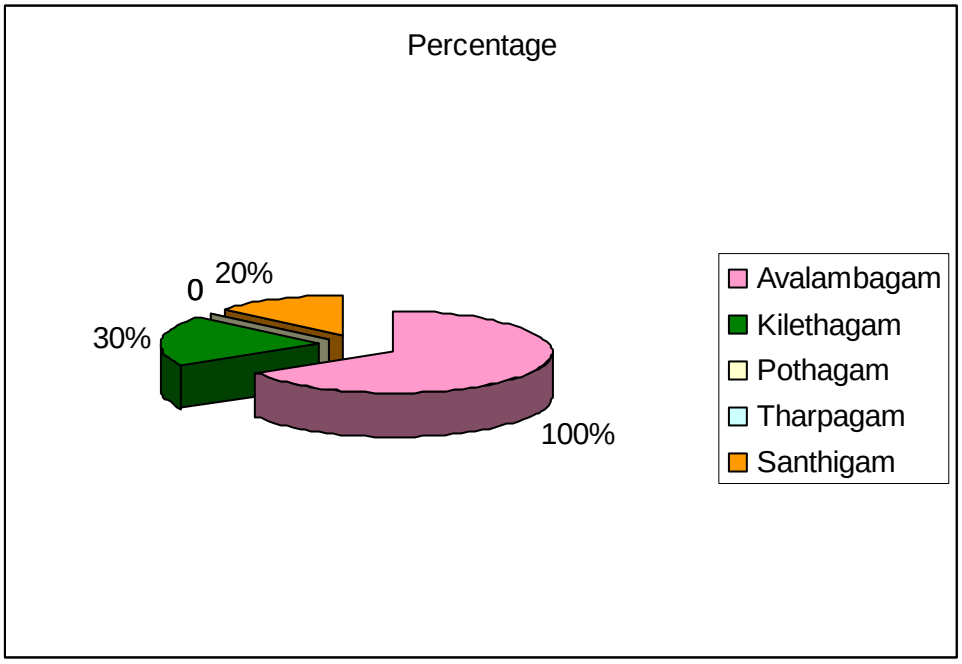


In the study of 20 cases,100 % of cases had effected, Sathagam and Ranjagam, 30% of cases had affected a Aalosagam and 25% of cases had affected Analagam.

AFFECTED IYAM:

S.No.	Types of Iyam	No. of cases	Percentage
1.	Avalambagam	20	100 %
2.	Kilethagam	6	30 %
3.	Pothagam	0	0
4.	Tharpagam	0	0
5.	Santhigam	4	20 %

AFFECTED IYAM PERCENTAGE

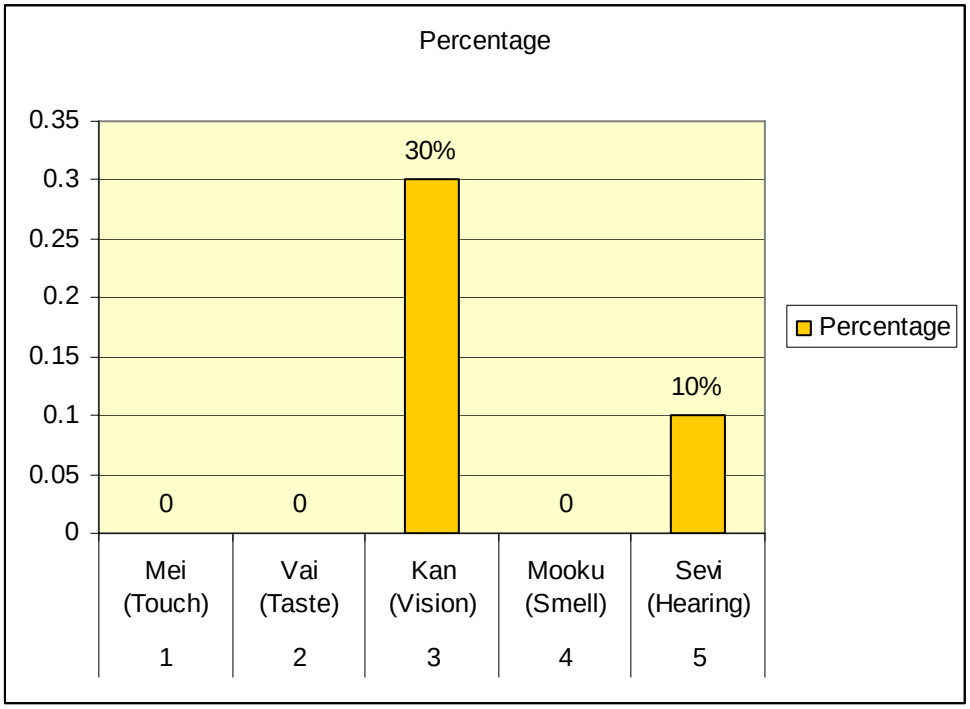


In the study of 100 % of cases had affected Avalambagam and 30% of cases had affected Kilethagam.

PORI PULANGAL REFERENCE:

S.No.	Pori Pulangal	No. of cases	Percentage
1.	Mei (Touch)	0	0
2.	Vaai (Taste)	0	0
3.	Kan (Vision)	6	30 %
4.	Mooku (Smell)	0	0
5.	Sevi (Hearing)	2	10 %

PORI PULANGAL REFERENCE PERCENTAGE

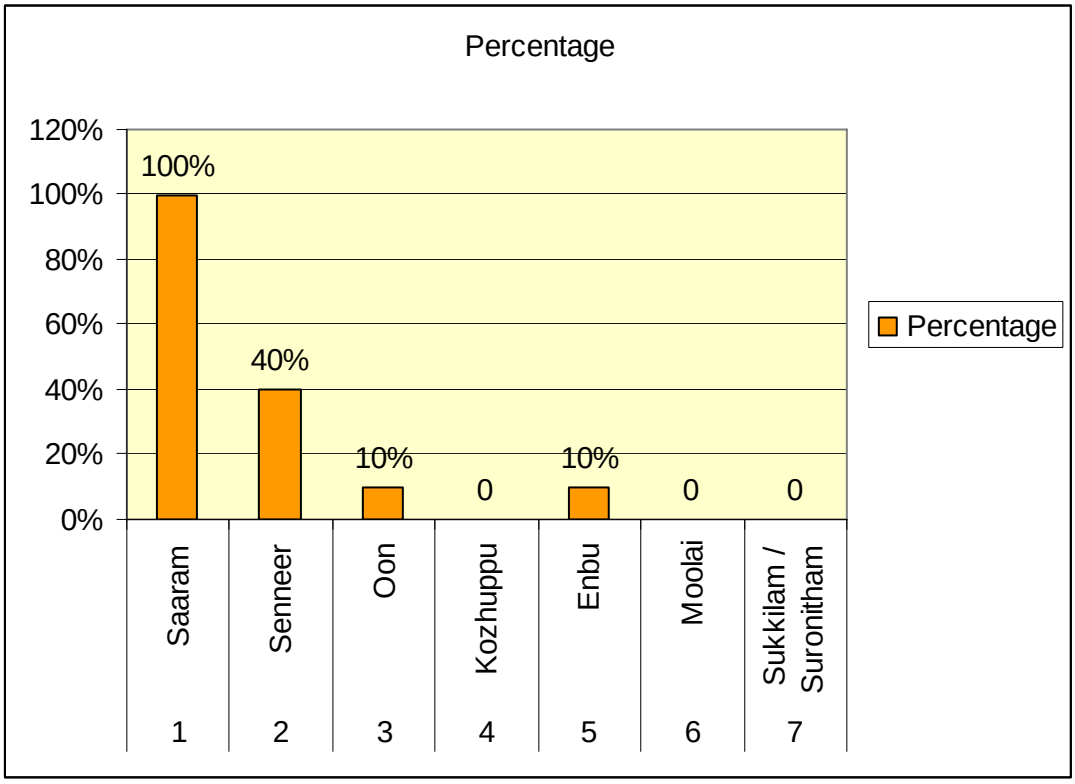


In the study of 20 cases, 30% of cases had affected Kan(vision) and 10% of cases had affected Sevi (hearing).

EZHU UDAL KATTUGAL

S.No.	Udal kattugal	No. of cases	Percentage
1.	Saaram	20	100 %
2.	Senneer	8	40 %
3.	Oon	2	10 %
4.	Kozhuppu	0	0
5.	Enbu	2	10 %
6.	Moolai	0	0
7.	Sukkilam / Suronitham	0	0

EZHU UDAL KATTUGAL PERCENTAGE

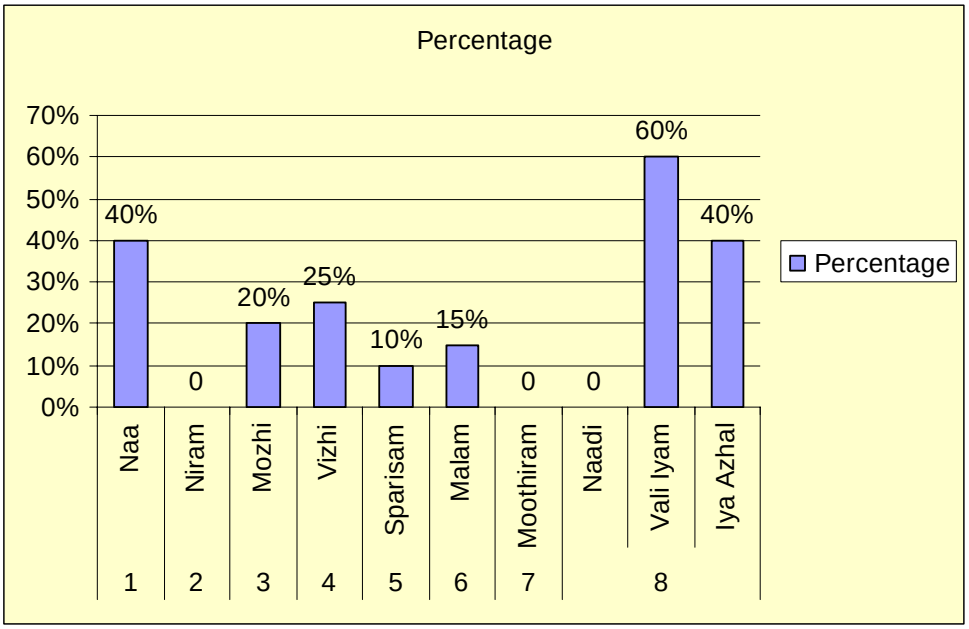


In the study of 20 cases, 100 % of cases had affected saaram, and 40% of cases had affected senneer 10% of cses had affected Oon.

ENVAGAI THERVUGAL

S.No.	Envagai Thervugal	No. of cases	Percentage
1.	Naa	8	40 %
2.	Niram	0	0
3.	Mozhi	4	20%
4.	Vizhi	5	25%
5.	Sparisam	2	10 %
6.	Malam	3	15%
7.	Moothiram	0	0
8.	Naadi	0	0
	Vali Iyam	12	60 %
	Iya Azhal	8	40 %

ENVAGAI THERVUGAL PERCENTAGE

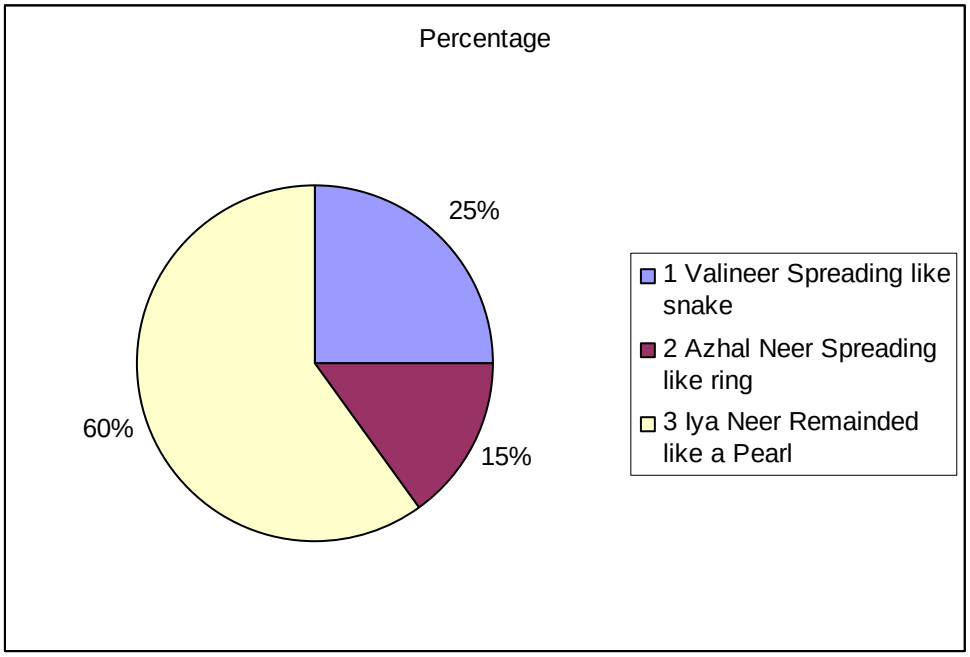


From the inference 40 % of cases had affected Naa and 25% of cases had affected Vizhi and 20% of cases had affected Mozhi 15% of cases had affected Malam and in Naadi 60% of cases had Iya Azhal and 40% of cases had affected Vali Iyam.

NEIKURI

S.No.	Neikuri	Character of Urine	No. of cases	Percentage
1.	Valineer	Spreading like snake	5	25%
2.	Azhal Neer	Spreading like ring	3	15 %
3.	Iya Neer	Remainded like a Pearl	12	60%

NEIKURI PERCENTAGE

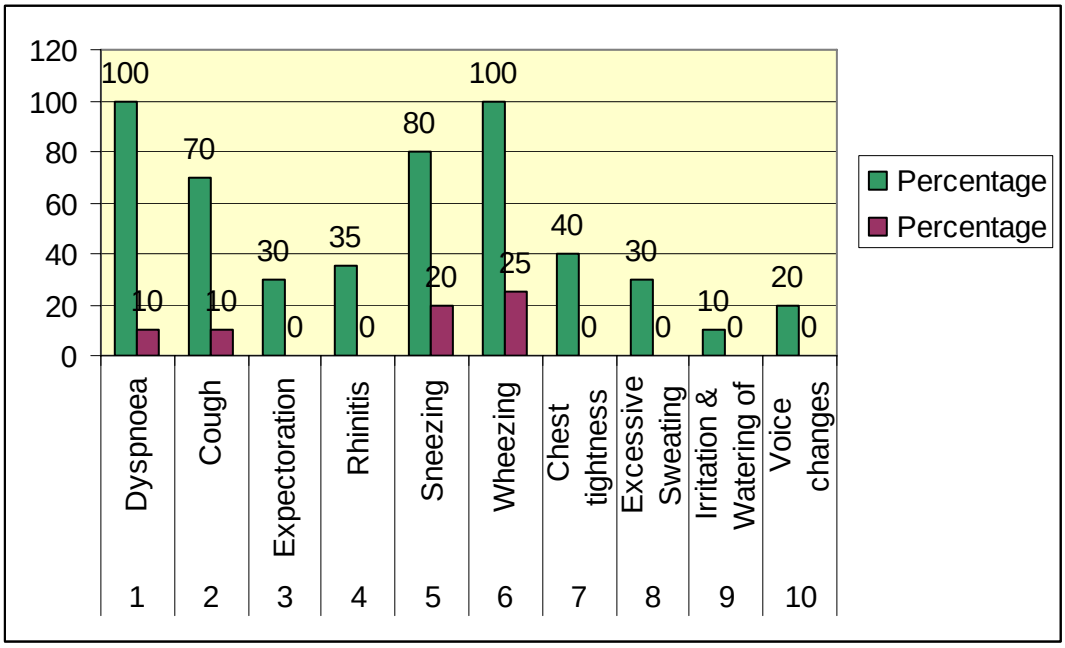


From the inference, 12 cases had Iya Neer nd 5 cases had Vali Neer, 3 cases had Azhal Neer.

THE PROGRESS OF PRESENTING SYMPTOMS OF PATIENT

S.NO	CLINICAL FEATURES	BEFORE TREATMENT NO OF CASES	PERCENTAGE	AFTER TREATMENT NO OF CASES	PERCENTAGE
1.	Dyspnoea	20	100	2	10
2.	Cough	14	70	2	10
3.	Expectoration	16	30	0	0
4.	Rhinitis	7	35	0	0
5.	Sneezing	16	80	4	20
6.	Wheezing	20	100	5	25
7.	Chest tightness	8	40	0	0
8.	Excessive Sweating	6	30	0	0
9.	Irritation & Watering of the eyes	2	10	0	0
10.	Voice changes	4	20	0	0

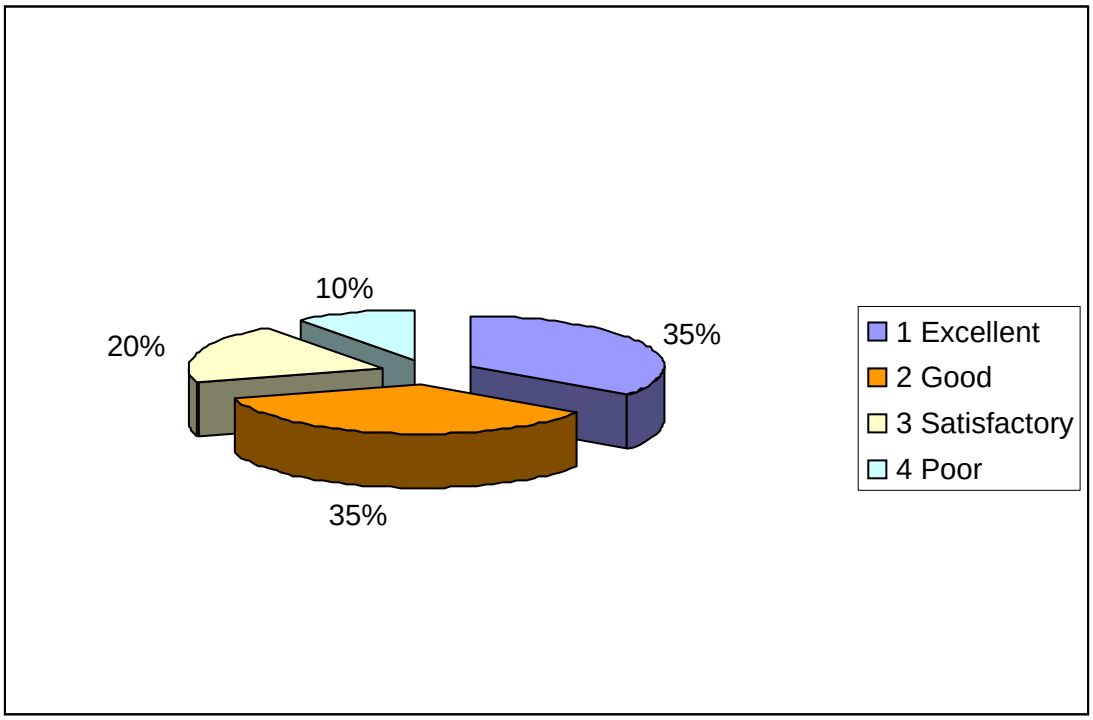
PERCENTAGE



GRADATION OF RESULT

S.No	Over all result	No of cases	Percentage
1.	Excellent	7	35
2.	Good	7	35
3.	Satisfactory	4	20
4.	Poor	2	10

GRADATION OF RESULT PERCENTAGE



In this study 35% of cases is Excellent, 35% of cases is Good, 25% of cases is Satisfactory, 10% of cases is poor.

BIO STATISTICS

Hypothesis I : The Total number of patients cured is more than that of patients not cured suffering from Bronchial Asthma.

The first hypothesis of the present study is verified with the help of the popular mathematical analysis called ratio analysis. The following table gives the details regarding the number of patients cured and not cured with Siddha Treatment for Bronchial Asthma.

Table : Effectiveness of Treatment for Bronchial Asthma.

Number of patients Cured			Number of patients not cured		
M	**F**	**Ratio**	**M**	**F**	**Ratio**
7	8	1: 1.14	3	2	1.5 : 1

The table shows the sampled (20) patients distribution under cured and not cured with gender classification.

A close observation of the table shows the fact that the ratio of male to female patients who are cured is 1:1.4 and that of not cured is 1.5:1. The ratio of cured to not cured is 3:1. This ratio clearly indicates the fact that out of 4 inpatients treated for Bronchial Asthma 3 get cured and one only does not. Hence the number of patients cured is more than that of not cured thereby verifying and proving the first hypothesis of the present study.

Hypothesis II : The Siddha treatment for Bronchial Asthma has been effective in curing the patients.

The impact and effectivenss of any treatment on the patients can be statistically verified with the help of opinion revealed by the patients. A similar attempt has been made to verify whether the treatment has been useful or not . The sampled (2) patients have been asked to express their opinion about the treatmet they received for Bronchial Athma. The responses of the patients have been classified as given in the following table. A famous statistical tool, namely χ^2 analysis (Chi-square) has been used to test the validity of the second hypothesis. The table of expected frequencies has been constructed with the help of the table of observed frequencies.

Opinion about the treatment – Table of observed values (o)

Opinion	Male	Female	
Excellent	3	4	7
Good	5	2	7
Satisfactory	1	3	4
Poor	1	1	2
Total	10	10	20

Source : Primary Data

Table of Expected Values (E)

Opinion	Male	Female
Excellent	3.5	3.5
Good	3.5	3.5
Satisfactory	2	2
Poor	1	1

The calculated value of χ^2 is 0.35 the table value of χ^2 at 5% significant level and for 3 degrees of freedom is 7.81. **It is found that the calculated value of χ^2 is less than the table value. Hence the second hypothesis holds good.** It is tested and verified and also concluded that **" the siddha treatment for Bronchial Asthma has been effective in curing the patients".**

DISCUSSION

The author selected the disease **Eraippu Erumal** in this Yugivaidhya Chinthamani which greatly resembles the clinical features of the disease Bronchial Asthma dealt with in modern medicine. Eraippu Erumal is a common disorder in all societies and recurrent problem of the patients those who are suffering from the disease. The classical symptoms are cough, expectoration, breathlessness, tightness of Chest, wheezing.

For this clinical features the diagnostic criteria including blood test, Radiological investigation, and pulmonary function test have been studied in detail.

A total of 40 patients who fulfilled the main criteria were selected out of 40 patients. 20 were admitted in the inpatients ward and the remaining were treated as outpatients in the PG Department OP. They were given silethumathiruku Choornam 1 gm, thrice daily, Bushkarathy Kudineer 30ml twice daily.

In all the patients detailed history including age, sex, socio – economic status, personal habits, allergy and seasonal variations have been taken to observe the influence of these in the occurance of Eraippu Erumal.

Age and Sex incidence:

The study reveals that the maximum cases were recorded in the age group 51 – 65 years and 35% were equally found in the age group of 41-50 years. The youngest patient in the present series was 24 years and the oldest was 65 years.

The present finding that maximum patients of Eraippu Erumal were in the age group 51- 65 years is in conform with the literature survey. The age group predominantly affected as per literature is also seen in the fifth and sixth decades.

The Male / Female ratio of the patients was 1:1 (10:10 patients).

Occupational Hazards:

The labour group of people were mostly affected 20%. This was followed by farmer group (20%) and Textile worker (15%). This shows that there is not much difference in occupational hazards and the disease occurrence.

Personal Habits Including Food Habits:

People on mixed diet were found affected predominantly (75%), showing the susceptibility of food habits on the Eraippu Erumal similarly all those who are smoking for many years and chronic tobacco users and alcoholics were found suffering from Eraippu Erumal Noi than other categories of people without these habits.

In that he had stated occupational hazards, food habits and personal habits like excessive intake of alcohol, smoking, non-vegetarians, tobacco chewers and air pollution and lower socio economic status mentioned above have been clearly shown as predisposing causes for Eraippu Erumal. The present study revealed that 60% of the people affected were from the lower socio economic group. The poor living condition and air pollution could be the cause for predominance of Eraippu Erumal.

Family Incidence:

Although 45% of patients studied were from the families with a past record of Eraippu Erumal 55 % of patients formed new record. There is not

much difference between hereditary factor playing a role in causing Eraippu Erumal and the environmental factor causing the same. Indeed, the environmental factor is significantly more (55%) responsible for the disease in the cases studied.

Thinai (Land) Incidence:

The present finding that people living in Neithal land are affected more (70%) is also in tune with the literature. The humid air in the Neithal land favours the occurrence of Eraippu Erumal. Siddha literature reveals, Kurinji is the land of aggravation of Iya Kutram.

Seasonal Variations:

Eraippu Erumal shows seasonal variation. Exacerbation of symptoms are affected in most of the patient during Munpani Kalam (30%). Pinpani Kalam (25%) and Koothir Kalam (25%) and Kaarkalam (20%). The predominance of Iyam in Munpanikalam and Pinpanikalam and Koothir Kalam is also the result observed in the 20 cases studied.

Mukkutram Vali:

On Examination in all the 20 cases selected for the study, Vuyirkaal and melnokkukal were affected in all the cases causing cough, breathlessness and expectoration respectively. Samanan was affected in 25% of cases Koorman was affected in 35% of cases Devathathan was affected in 30% of cases.

Azhal:

Amongst 20 cases Azhal was deranged in some cases causing loss of appetite (Analagam 25%) Anaemia (Ranjagam 100%), General malaise (Saathagam 100%).

Iyam:

Out of 20 patients, Avalambagam was affected in 100% Kilethagam in 30% of patients and Santhigam in 20% of patients.

Udal Thathukkal:

Saaram was affected in all the 20 patients causing ill health, senneer was affected in 8 patients. Oon and enbu were affected in 2 patients causing pain and tiredness.

Envagai Thervugal:

Vizhi was affected in 5 cases causing impaired vision. Sparism was affected in 10% of patients reflecting fever, malam was affected reflecting constipation in 15% of cases. In the cases Neikuri reflects Kaphaneer(60%) and Pitha Neer(15%) Valineer(25%) Naadi was predominantly Vali Iyam on 60% of case and in some it was Kaphapitham(40%).

Clinical Features of Eraippu Erumal:

All the patients presented with wheeze and dyspnoea on exertion and chest tightness. Most of the patients (70%) had dry cough and sometime associated with mucoid expectoration (30%), 35% of the patients had symptoms of rhinitis patients had symptoms of running nose and 80% 0f the patients had affected sneezing associated with sweating. All these above features of Eraippu Erumal are also diagnostic features of Bronchial Asthma.

Bio Chemical Analysis:

The results of biochemical analysis carried out are delt under results section and in Table. Both the trial drugs I and II have acid and basic radials. Silethumathirku choornam was found possessing most of the acid radials like Sulphate, Chloride, Carbonate, Oxalate.

Similarly Silethumathirku choornam has most of the basic radials such as Iron, Calcium. Bushkarathy kudineer has acid radials such as sulphate, chloride, carbonate, oxalate. Basic radials such as Iron, Calcium.

The other miscellaneous chemicals present in drug I include Starch, Tannic acid,Alkaloids and drug II contains Starch, reducing Sugar, Alkaloids, Tannic acid.

Investigations:

Investigations like TC, DC, ESR, HB, Blood Sugar, Urea, Serum cholesterol were examined and urine analysis for Albumin, Sugar and deposits were taken. Motion test for ova and cyst were analysed. Absolute eosinophil count, sputum for AFB, X-ray chest P.A. view were taken. Pulmonary function test taken for 12 patients.

Treatment:

The drugs used to treat Eraippu Erumal in this study are

1. Silethumathirku Choornam
2. Bushkarathy kudineer

The effect of these drugs in treating Eraippu Erumal (Bronchial Asthma) is very well documented in Siddha literatures. As given in the Siddha text, Gunapadam Part I and Part II. Taste (Suvai) and Poteny (Veeriyan) of the ingredients trial drugs are,

Silethumathirku Choornam

	Drugs	Suvai	Veeriyam
1.	Kandangkathiri	Kaarpu	Veppam
2.	Thalisapathiri	Kaarppu	Veppam
3.	Avuri	Thurvarppu	Veppam
4.	Moongilippu	Thuvarppu	Veppam

Bushkarathy Kudineer

	Drugs	Suvai	Veeriyam
1.	Kostam	Kaippu	Veppam
2.	Kandupaaranki	Thuvarppu	Veppam
3.	Inji	Kaarppu	Veppam
4.	Sukku	Kaarppu	Veppam
5.	Thippili	Inippu	Veppam

From the above it is evident that all the drugs have veppa veeriyam. Based on Pancha Pootha theory. The drugs with veppa veeriyam have predominant five bootha which is known to be effective in controlling the increased Iya Kuttram. So the trial drugs act on Eraippu Erumal according to 'Ethirurai' theory. Thus the efficacy of the trial drugs on Eraippu Erumal is well established.

Chemical analysis of the trial drugs confirms the absence of any toxic substances in them. All the ingredients of the trial drugs were very well established for their safety and efficacy.

The clinical study was highly encouraging. This is only a preliminary approach and the study may be undertaken with the same drugs in large number of patients which may prove to be more effective.

SUMMARY

The Eraippu Erumal has been thoroughly studied by selecting 40 cases and subjecting them for a detailed propective study on clinical features, exacerbation of symptoms during the various kalam (Season), Thinai (Land), Kutram(Three humours), Udal thathukkal (Seven constiuents) including age and sex preponderance. A through siddha diagnostic and modern diagnostic procedure and bio chemical analysis, to rule out the drug efficacy drug toxicity and therapeutic value of the trial drug were also done.

The trial drugs used are

1. Silethumathirku Choornam – 1 gm three times daily with honey.
2. Bushkarathy Kudineer 30ml two times a day.

Abstract of the results of Eraippu Erumal:

The following is the summary results of the patients studied and preponderance of Eraippu Erumal encountered in various aspects of Siddha Diagnostic Principles.

Age : The maximum cases were in the age group of 51-65 years.

Sex : Male / Female ratio 1:1

Occupational Harzards: Farmers and labours and Textile workers.

Diet Habits : Non Vegetarian Food

Other Habits : Chronic smokers,chronic Alcoholics,Chronic Tobacco Chewers

Socio Economic

Status : Low class Income group (LIG)

Postitive family

History	:	45 %
Thinai	:	Predominant in Neithal Land
Kaalam	:	Predominant in Munpanikaalam,Pinpani Kaalam and Koothirkaalam.
Kutram	:	
a) Vali	:	Predominantly pranan and samanan types are affected.
b) Azhal	:	Predominantly Sathagam and Ranjagam are affected.
c) Iyam	:	Predominantly Avalambagam was affected.
Poripulangal	:	More affects vision, hearing
Udal Thathukkal	:	Saaram and Senneer are affected predominantly
Envagai Thervugal	:	Predominantly affected in Vali Iyam and Iya Azhal types of Naadi, Naa, Mozhi, Sparism and vizhi also affected.
Clinical Symptom	:	Wheeze and dyspnoea, Sneezing, Chest tightness are present
Biochemical analysis	:	Both various acid and basic Radicals occurrence.
Toxicity of drug	:	No toxicity
Adverse effect	:	No Adverse effect

CONCLUSION

The treatment with **Silethumathirku Choornam** and **Bushkarathy Kudineer** showed remarkable good result in the treatment of Eraippu Erumal.

The drugs are easily available and the dosage is also convenient.

The preparation of the trial drug is simple.

No adverse effects were observed during the entire course of treatment.

It was observed during the study that this drug is most effective. It is received well by the patients for its palatability.

So it is concluded that in our developing country the combined therapy with silethumathirku Choornam and Bushkarathy Kudineer can be very good in the view of efficacy and safety in the chemotherapy for **Eraippu Erumal.**

BIBLIOGRAPHY

Siddha References

- Adhma Rachirtha Vaidhya Sara Sangaragam
- Agasthiyar – 2000 – Dr.S.Venkatarajan LIM
- Anubava Vaidhya Devaragasiyam – J.Seetharama Prasath
- Angathy patham – Dr.R.Thyagarajan LIM
- Anantha Yogam – A.Rajamanickam
- Chikitcha Ratna Deepam – C.Kuppusamy Pillai
- Dhanvanthiri Vaidhyam
- Gunapadam Part I – K.S.Murugesa Mudaliyar
- Jeevarakshamirtham
- Kannusamiyam Paramparai Vaidhyam –C.Kannusamy pillai
- Noi illa Neri – Dr.Durirajan HPIM
- Patharatha Guna Vilakkam –C.Kannusamy pillai
- Roga Nirnaya Saaram Yennum Roga Nithanam – T.R.Mahadevapandithar
- Siddha Maruthuvam – Dr.Kuppusamy Mudhaliyar HPIM
- Noinadal and Noi Muthanadal – Dr.M.Shanmugavelu HPIM
- Siddha Maruthuvanga Churukkam – Dr.K.S.Uthamarayan HPIM
- Sarabendhira Vaidhya Muraigal Kasa Swasa Chikichai
- Siddhar Kaiyaluthupirathi
- Susrutha Samhida
- Thirumoolar Thiru Manthiram
- Theraiyar Vagadam – Dr.R.Thyagarajan LIM
- Theraiyar Vaidhya Kaaviyam 1500 – S.P.Ramachandran
- Yugi Vaidhya Chinthamani – C.Kannusamy Pillai

MODERN REFERENCE BOOKS

- ATLAS of Anatomy – Anne M.R.Agur B.Sc (OT) M.Sc
- Anderson GG Cookeon WO -1999 Recent advances in genetics of allergy asthma.
- CECIL essentials of medicine
- Clinical Anatomy for medical students – Richard S.Snell
- Davidson's principles and practice of medicine.
- Fundamentals of Human Anatomy – Dr.A.S.Mani
- Gray's Anatomy
- Harisons's principles of Internal Medicine – Voume II
- Speaking of Nature Cure - L.Lakshmana Sarme
- S.Swaminathan
- Text book of medical physiology – Guyton & Hall 9th Edition
- Understanding Medical physiology - R.L.Bijlani
- Text book of medicine 3rd Edition – K.V.Krishna Das
- Text book of physiology - Shembulingam
- Riclory Lupsic – Herbal Intervention in asthma and allergy

PULMONARY FUNCTION TEST

S.NO	IP/OP NO	NAME	BEFORE TREATMENT	AFTER TREATMENT
1.	1649/ 6158	Rasool beevi	Obstructive airway disease	Normal
2.	2031/ 9135	Saroja	Mixed restrictive and obstructive disease	Mild Obstruction
3.	2234/851	Sudha	Resitart Start	Normal
4.	2270/ 2221	Rajasekaran	Moderate obstruction	Normal
5.	2319/5581	Dhanalakshmi	Obstructive airway disease	Normal
6.	2428/ 7846	Subramanian	Patient uncoperate	-
7.	2537/ 5581	Vasantha	Moderate Obstruction	Mild Obstruction
8.	1458	Sathiyavani	Normal	-
9.	3264	Ananthan	Mild Obstruction	Normal
10.	3722	Amutha	Severe Obstruction	Normal
11.	9039	Rubanathan	Normal	-
12.	8103	Anjali	Mild Obstruction	Normal

LABORATORY INVESTIGATION REPORT (IP) BEFORE TREATMENT

S.No	I.P.No	Name	TC Cumm	DC			ESR		Hb (gm)	Bio chemical Analysis			Sputum AFB	AEC	Urine			Motion		Radiological Examination
				P%	L%	E%	½ hr	1hr		Sugar mg	Urea mg	Choles mg			Alb	Sug	Dep	Ova	Cyst	
1.	1106/2213	Harikrishnan	9800	60	32	8	11	20	10.5	87	25	176	Ng	450	Nil	Nil	Opc	Nil	Nil	Normal
2.	1170/2855	Sarojini	8700	57	36	7	60	124	9.5	70	28	140	Ng	470	Nil	Nil	Fec	Nil	Nil	Prominent BVM
3.	1226/2665	Sagunthala	9000	60	34	6	15	32	11.0	115	18	162	Ng	368	Nil	Nil	Nil	Nil	Nil	Normal
4.	1296/9305	Natarajan	9800	58	34	8	32	60	10.5	90	28	125	Ng	250	Nil	Nil	Nil	Nil	Nil	Normal
5.	1326/4015	Periyasamy	10700	60	30	10	50	112	9.0	83	34	140	Ng	364	Nil	Nil	Opc	Nil	Nil	BVM
6.	1488/2828	Tamilselvan	9700	60	33	7	11	20	11.0	92	30	180	Ng	444	Nil	Nil	Nil	Nil	Nil	Normal
7.	1508/3868	Sabiya	9800	59	35	6	45	92	10.0	95	26	175	Ng	510	Nil	Nil	Nil	Nil	Nil	Prominent BVM
8.	1574/1942	Shanmugam	10600	60	31	9	26	54	12.0	92	20	195	Ng	360	Nil	Nil	Nil	Nil	Nil	Normal
9.	1590/6548	Sarathamani	9200	53	37	10	30	64	14.0	81	21	210	Ng	452	Nil	Nil	Fpc	Nil	Nil	Normal
10.	1626/3049	Pangaru	10800	65	28	7	11	20	10.5	83	19	155	Ng	438	Nil	Nil	Nil	Nil	Nil	Normal
11.	1649/6158	Rasool beevi	9900	56	27	10	40	80	12.0	118	23	145	Ng	248	Nil	Nil	Fpc	Nil	Nil	Prominent BVM
12.	1815/8417	Krishnamurthy	9700	59	35	6	8	16	13.0	136	25	164	Ng	378	Nil	Nil	Opc	Nil	Nil	Normal
13.	1844/9263	Elizabeth mary	9700	60	32	8	32	60	9.5	105	26	190	Ng	244	Nil	Nil	Nil	Nil	Nil	Prominent BVM
14.	1969/5943	Pichandi	8800	53	40	7	11	20	8.5	103	23	160	Ng	380	Nil	Nil	Nil	Nil	Nil	Prominent BVM
15.	2031/9135	Saroja	9200	58	33	9	12	24	11.0	98	29	192	Ng	575	Nil	Nil	Nil	Nil	Nil	BVM

16.	2234/ 851	Sudha	9800	59	33	8	20	40	10.0	105	25	200	Ng	200	Nil	Nil	Nil	Nil	Nil	BVM
17.	2270/ 2221	Rajasekar	9500	52	40	8	10	20	12.0	82	21	184	Ng	275	Nil	Nil	Nil	Nil	Nil	Prominent BVM
18.	2319/ 5581	Dhanalakshmi	8700	62	28	10	7	14	11.5	105	28	161	Ng	490	Nil	Nil	Ofc	Nil	Nil	Normal
19.	2428/ 7846	Subramani	10700	60	32	8	24	40	9.0	99	30	198	Ng	280	Nil	Nil	Fpc	Nil	Nil	BVM
20.	2537/ 5581	Vasantha	10000	58	30	12	12	25	12.5	126	28	140	Ng	490	Nil	Nil	Nil	Nil	Nil	Normal

TC-Total Count

DC-Differential Count

P -Polymorph

E- Eosinophil

ACE –Absolute Eosinophil Count

Hb – Haemoglobin

ESR – Erythrocyte sedimentation rate

Alb – Albumin

Sug – Sugar

Dep - Deposite

OPC – Occasional pus cells

FEC – Few Epithelial Cells

FPC – Few Pus Cells

LABORATORY INVESTIGATION REPORT (IP) AFTER TREATMENT

S.No	I.P.No	Name	TC Cumm	DC			ESR		Hb (gm)	Bio chemical Analysis			AEC	Urine			Motion	
				P%	L%	E%	½ hr	1hr		Sugar mg	Urea mg	Choles mg		Alb	Sug	Dep	Ova	Cyst
1.	1106/2213	Harikrishnan	9800	65	31	4	4	8	12	87	23	176	350	Nil	Nil	Nil	Nil	Nil
2.	1170/2855	Sarojini	8600	60	35	5	10	20	10	70	20	142	320	Nil	Nil	Fec	Nil	Nil
3.	1226/2665	Sagunthala	8900	72	24	4	7	15	13	115	26	160	300	Nil	Nil	Nil	Nil	Nil
4.	1296/9305	Natarajan	9800	66	28	6	4	10	11	90	30	125	200	Nil	Nil	Nil	Nil	Nil
5.	1326/4015	Periyasamy	10600	60	32	8	8	20	9	85	36	140	330	Nil	Nil	Nil	Nil	Nil
6.	1488/2828	Tamilselvan	9800	62	34	4	3	8	12	95	32	180	380	Nil	Nil	Nil	Nil	Nil
7.	1508/3868	Sabiya	9800	60	37	3	5	12	10	95	28	170	350	Nil	Nil	Opc	Nil	Nil
8.	1574/1942	Shanmugam	10200	65	30	5	3	6	12	93	20	195	290	Nil	Nil	Ni	Nil	Nil
9.	1590/6548	Sarathamani	9400	55	38	7	5	12	14	80	26	200	400	Nil	Nil	Nil	Nil	Nil
10.	1626/3049	Pangaru	10600	70	25	5	4	9	11	83	25	155	375	Nil	Nil	Nil	Nil	Nil
11.	1649/6158	Rasool beevi	9700	55	39	6	3	8	12	120	28	150	150	Nil	Nil	Nil	Nil	Nil
12.	1815/8417	Krishnamurthy	9600	60	37	3	4	8	13	135	30	160	300	Nil	Nil	Nil	Nil	Nil
13.	1844/9263	Elizabeth mary	9800	71	25	4	5	10	10.5	105	26	185	415	Nil	Nil	Nil	Nil	Nil
14.	1969/5943	Pichandi	8800	52	42	6	7	14	9	110	28	190	100	Nil	Nil	Nil	Nil	Nil

15.	2031/9135	Saroja	9400	63	32	5	5	12	11	98	30	200	180	Nil	Nil	Nil	Nil	Nil
16.	2234/851	Sudha	9700	64	33	3	6	12	10.5	110	25	180	160	Nil	Nil	Fec	Nil	Nil
17.	2270/2221	Rajasekar	9400	59	36	5	2	5	12.5	80	21	160	215	Nil	Nil	Nil	Nil	Nil
18.	2319/5581	Dhanalakshmi	8800	60	33	7	3	7	10	105	30	168	395	Nil	Nil	Nil	Nil	Nil
19.	2428/7846	Subramani	10700	68	28	4	4	8	10.5	90	35	190	130	Nil	Nil	Nil	Nil	Nil
20.	2537/5581	Vasantha	10100	58	34	8	13	25	11.5	130	29	140	350	Nil	Nil	Fpc	Nil	Nil

TREATMENT & RESULT OF CASES (IP)

S.No	IP No	Name of the Patient	Age	Sex	Occupation	Date of admission	Treatment with trial drug with dose	Date of Discharge	Total Duration of days	Results
1.	1106/2213	Harikrishnan	43	M	Farmer	09.08.07	**1. Silethumathirku Choornam-1gm tds with honey** **2. Bushkarathy Kudineer – 30ml twice daily**	15.09.07	36	Excellent
2.	1170/2855	Sarojini	46	F	House Wife	11.08.07		22.09.07	41	Satisfactory
3.	1226/2665	Sagunthala	56	F	House Wife	04.09.07		13.10.07	38	Satisfactory
4.	1296/9305	Natarajan	62	M	Labour	19.10.07		29.11.07	40	Good
5.	1326/4015	Periyasamy	65	M	Farmer	03.10.07		05.11.07	31	Satisfactory
6.	1488/2828	Tamilselvan	36	M	Watch Man	10.10.07		17.11.07	37	Excellent
7.	1508/3868	Sabiya	52	F	Farmer	18.10.07		28.11.07	40	Satisfactory
8.	1574/1942	Shanmugam	60	M	Sweeper	19.11.07		24.12.07	35	Good
9.	1590/6548	Sarathamani	65	F	Farmer	25.11.07		21.01.08	45	Good
10.	1626/3049	Pangaru	59	M	Sweeper	15.12.07		05.01.08	26	Good
11.	1649/6158	Rasool beevi	26	F	Labour	10.12.07		12.01.08	32	Excellent
12.	1815/8417	Krishnamurthy	42	M	Tailor	18.12.07		31.01.08	44	Good
13.	1844/9263	Elizabeth mary	50	F	House Wife	05.01.08		10.02.08	34	Excellent
14.	1969/5943	Pichandi	56	M	Labour	24.01.08		27.02.08	33	Poor
15.	2031/9135	Saroja	46	F	Textile Worker	28.01.08		06.03.08	37	Good
16.	2234/851	Sudha	24	F	Textile Worker	04.02.08		15.03.08	39	Excellent
17.	2270/2221	Rajasekar	46	M	Driver	12.02.08		20.03.08	36	Excellent
18.	2319/5581	Dhanalakshmi	52	F	Cook	18.02.08		25.03.08	35	Excellent
19.	2428/7846	Subramani	62	M	Merchant	03.03.08		05.04.08	32	Good
20.	2537/5581	Vasantha	40	F	Labour	15.03.08		12.04.08	27	Poor

LABORATORY INVESTIGATION REPORT (OP) BEFORE TREATMENT

S. No	OP No.	Name	Age	Sex	TC	DC			ESR		Hb gm	Biochemical Analysis			Sputum AFB	Urine Analysis			Motion Test		X-Ray Findings
						P	L	E	½ hr	1hr		Sugar Mg	Cho mg	Urea Mg		Alb	Sug.	Dep	Ova	Cyst	
1.	681	Elizabeth	56	F	10700	62	33	5	24	40	10	81	180	21	Ng	Nil	Nil	Fec	Nil	Nil	PBVM
2.	7325	Reetha	59	F	10200	63	31	6	11	20	10.5	87	170	25	Ng	Nil	Nil	Nil	Nil	Nil	Normal
3.	7832	Ananthan	42	M	9800	60	32	8	6	12	11.0	83	192	19	Ng	Nil	Nil	Fec	Nil	Nil	Normal
4.	8711	Sarojini	48	F	10800	66	28	6	11	20	10.5	100	200	24	Ng	Nil	Nil	Fec	Nil	Nil	PBVM
5.	9911	Karthikeyan	21	M	9900	56	27	10	20	40	10.0	110	210	30	Ng	Nil	Nil	Opc	Nil	Nil	PBVM
6.	1213	Anitha	24	F	9700	60	32	8	32	60	11.0	120	170	26	Ng	Nil	Nil	Opc	Nil	Nil	Normal
7.	1281	Thirumalai Velu	48	M	10800	68	22	10	20	44	11.0	98	185	28	Ng	Nil	Nil	Fec	Nil	Nil	PBVM
8.	2592	Kanagalakshmi	53	F	9400	55	38	7	12	24	10.0	96	162	25	Ng	Nil	Nil	Fec	Nil	Nil	Normal
9.	5380	Kasthuri	39	F	8700	53	40	7	30	64	9.5	87	220	21	Ng	Nil	Nil	Fec	Nil	Nil	Normal
10.	4896	Vinoth Kumar	16	M	8700	52	40	8	5	12	11.0	70	200	18	Ng	Nil	Nil	Opc	Nil	Nil	PBVM
11.	6343	Ganesh	30	M	9700	59	36	5	11	20	11.0	82	180	21	Ng	Nil	Nil	Opc	Nil	Nil	Normal
12.	6789	Parameshwari	34	F	8800	59	34	7	7	16	9.5	83	165	18	Ng	Nil	Nil	Nil	Nil	Nil	Normal
13.	1280	Thennarasu	30	M	9800	62	33	5	8	14	11.0	115	162	18	Ng	Nil	Nil	Nil	Nil	Nil	Normal
14.	1458	Sathiyavani	26	F	9400	58	35	7	20	45	11.0	90	210	35	Ng	Nil	Nil	Nil	Nil	Nil	Normal
15.	3264	Ananthan	25	M	9700	59	35	6	9	15	12.0	95	140	18	Ng	Nil	Nil	Opc	Nil	Nil	PBVM
16.	3722	Amutha	33	F	9800	56	35	9	15	30	10.8	85	240	30	Ng	Nil	Nil	Nil	Nil	Nil	PBVM
17.	5238	Nadesan	65	M	9200	53	37	10	30	64	12.0	99	210	30	Ng	Nil	Nil	Fec	Nil	Nil	Normal
18.	9039	Rubanathan	33	M	9600	65	30	5	10	25	12.8	100	220	25	Ng	Nil	Nil	Nil	Nil	Nil	Normal
19.	8103	Anjali	27	F	9700	53	41	6	11	20	9.5	92	190	18	Ng	Nil	Nil	Nil	Nil	Nil	Normal
20.	4328	Marimuthu	34	M	9700	59	35	6	8	14	11.0	92	185	18	Ng	Nil	Nil	Nil	Nil	Nil	PBVM

LABORATORY INVESTIGATION REPORT (OP) AFTER TREATMENT

S. No	OP No.	Name	Age	Sex	TC	DC			ESR		Hb gm	Biochemical Analysis			Urine Analysis			Motion Test	
						P	L	E	½ hr	1hr		Sugar Mg	Urea Mg	Chol mg	Alb	Sug.	Dep	Ova	Cyst
1.	681	Elizabeth	56	F	10600	70	26	4	4	10	12	85	22	180	Nil	Nil	Fec	Nil	Nil
2.	7325	Reetha	59	F	10200	63	33	4	5	12	13	90	25	170	Nil	Nil	Nil	Nil	Nil
3.	7832	Ananthan	42	M	9800	58	36	6	3	6	12	85	20	190	Nil	Nil	Fec	Nil	Nil
4.	8711	Sarojini	48	F	9900	53	44	3	6	14	11.5	110	25	195	Nil	Nil	Fec	Nil	Nil
5.	9911	Karthikeyan	21	M	10800	60	33	7	7	15	12	105	28	200	Nil	Nil	Opc	Nil	Nil
6.	1213	Anitha	24	F	9600	64	31	5	6	11	10.5	110	29	170	Nil	Nil	Opc	Nil	Nil
7.	1281	Thirumalai Velu	48	M	10600	68	24	8	4	9	13	100	26	183	Nil	Nil	Fec	Nil	Nil
8.	2592	Kanagalakshmi	53	F	9400	65	32	3	2	5	10	95	30	160	Nil	Nil	Fec	Nil	Nil
9.	5380	Kasthuri	39	F	8500	72	26	2	9	20	9.8	90	23	210	Nil	Nil	Fec	Nil	Nil
10.	4896	Vinoth Kumar	16	M	8700	69	27	4	2	4	13	80	19	200	Nil	Nil	Opc	Nil	Nil
11.	6343	Ganesh	30	M	9500	61	34	5	6	13	14	84	20	180	Nil	Nil	Opc	Nil	Nil
12.	6789	Parameshwari	34	F	8700	59	38	3	2	4	12	85	18	160	Nil	Nil	Nil	Nil	Nil
13.	1280	Thennarasu	30	M	9400	63	34	3	5	10	13	110	22	165	Nil	Nil	Nil	Nil	Nil
14.	1458	Sathiyavani	26	F	9500	70	26	4	7	15	12	90	35	210	Nil	Nil	Nil	Nil	Nil
15.	3264	Ananthan	25	M	9900	67	31	2	3	6	15	95	20	140	Nil	Nil	Opc	Nil	Nil
16.	3722	Amutha	33	F	9600	57	37	6	7	15	10.5	85	30	230	Nil	Nil	Nil	Nil	Nil
17.	5238	Nadesan	65	M	9200	60	32	8	10	20	12	95	28	210	Nil	Nil	Fec	Nil	Nil
18.	9039	Rubanathan	33	M	9600	55	40	5	5	10	13	100	25	220	Nil	Nil	Nil	Nil	Nil
19.	8103	Anjali	27	F	9700	71	25	4	8	17	10	92	20	190	Nil	Nil	Nil	Nil	Nil
20.	4328	Marimuthu	34	M	9500	59	36	5	2	4	12	90	18	180	Nil	Nil	Nil	Nil	Nil

BRONCHIAL ASTHMA – X RAY